CW 2GeV Linac Error Simulations at 10 mA

80 parameters scanned / "Old TRACK"

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ALIGN Parameter TRACKv39

n ALIGN name δ_{xy} δ_z ϕ_z $\delta\phi_{dyn.}$ $\delta F_{dyn.}$ $\delta\phi_{static}$ δF_{static}

- From RFQ exit to end of the CW 2 GeV linac ($\sim$400 meters)
- 80 errors simulated with TRACKv39
- Each error simulated with 100 runs with 3D SC (10 mA)
- 80$\times$100=8000 runs with TRACKv39 on FermiGrid

Parameters 01-20

- 01/ Solenoids $\delta_{xy} = 150\ \mu$m
- 02/ Solenoids $\delta_{xy} = 300\ \mu$m
- 03/ Solenoids $\delta_{xy} = 500\ \mu$m
- 04/ Solenoids $\delta_{xy} = 750\ \mu$m
- 05/ Solenoids $\delta_{xy} = 1000\ \mu$m

- 06/ Solenoids $\delta_{z} = 150\ \mu$m
- 07/ Solenoids $\delta_{z} = 300\ \mu$m
- 08/ Solenoids $\delta_{z} = 500\ \mu$m
- 09/ Solenoids $\delta_{z} = 750\ \mu$m
- 10/ Solenoids $\delta_{z} = 1000\ \mu$m

- 11/ Sol. Field $\delta F_{dynamic} = 0.5$ %
- 12/ Sol. Field $\delta F_{dynamic} = 1.0$ %
- 13/ Sol. Field $\delta F_{dynamic} = 1.5$ %
- 14/ Sol. Field $\delta F_{dynamic} = 2.0$ %
- 15/ Sol. Field $\delta F_{dynamic} = 2.5$ %

- 16/ Sol. Field $\delta F_{static} = 0.5$ %
- 17/ Sol. Field $\delta F_{static} = 1.0$ %
- 18/ Sol. Field $\delta F_{static} = 1.5$ %
- 19/ Sol. Field $\delta F_{static} = 2.0$ %
- 20/ Sol. Field $\delta F_{static} = 2.5$ %

Parameters 21-40

- 21/ Quads $\delta_{xy} = 150\ \mu$m
- 22/ Quads $\delta_{xy} = 300\ \mu$m
- 23/ Quads $\delta_{xy} = 500\ \mu$m
- 24/ Quads $\delta_{xy} = 750\ \mu$m
- 25/ Quads $\delta_{xy} = 1000\ \mu$m

- 26/ Quads $\delta_z = 150\ \mu$m
- 27/ Quads $\delta_z = 300\ \mu$m
- 28/ Quads $\delta_z = 500\ \mu$m
- 29/ Quads $\delta_z = 750\ \mu$m
- 30/ Quads $\delta_z = 1000\ \mu$m

- 31/ Quads $\phi_z = 1$ mrad
- 32/ Quads $\phi_z = 2$ mrad
- 33/ Quads $\phi_z = 5$ mrad
- 34/ Quads $\phi_z = 7$ mrad
- 35/ Quads $\phi_z = 10$ mrad

- 36/ Quads Field $\delta F_{dynamic} = 0.5$ %
- 37/ Quads Field $\delta F_{dynamic} = 1.0$ %
- 38/ Quads Field $\delta F_{dynamic} = 1.5$ %
- 39/ Quads Field $\delta F_{dynamic} = 2.0$ %
- 40/ Quads Field $\delta F_{dynamic} = 2.5$ %

Parameters 41-60

- 41/ Quads Field $\delta F_{static} = 0.5$ %
- 42/ Quads Field $\delta F_{static} = 1.0$ %
- 43/ Quads Field $\delta F_{static} = 1.5$ %
- 44/ Quads Field $\delta F_{static} = 2.0$ %
- 45/ Quads Field $\delta F_{static} = 2.5$ %

- 46/ Cav. $\delta_{xy} = 150$ μm
- 47/ Cav. $\delta_{xy} = 300$ μm
- 48/ Cav. $\delta_{xy} = 500$ μm
- 49/ Cav. $\delta_{xy} = 750$ μm
- 50/ Cav. $\delta_{xy} = 1000$ μm

- 51/ Cav. $\delta_z = 150$ μm
- 52/ Cav. $\delta_z = 300$ μm
- 53/ Cav. $\delta_z = 500$ μm
- 54/ Cav. $\delta_z = 750$ μm
- 55/ Cav. $\delta_z = 1000$ μm

- 56/ Cav. $\phi_z = 1$ mrad
- 57/ Cav. $\phi_z = 2$ mrad
- 58/ Cav. $\phi_z = 5$ mrad
- 59/ Cav. $\phi_z = 7$ mrad
- 60/ Cav. $\phi_z = 10$ mrad

Parameters 61-80

- 61/ Cav. Phase $\delta\phi_{dynamic} = 0.5°$
- 62/ Cav. Phase $\delta\phi_{dynamic} = 1.0°$
- 63/ Cav. Phase $\delta\phi_{dynamic} = 1.5°$
- 64/ Cav. Phase $\delta\phi_{dynamic} = 2.0°$
- 65/ Cav. Phase $\delta\phi_{dynamic} = 2.5°$

- 66/ Cav. Field $\delta F_{dynamic} = 0.5$ %
- 67/ Cav. Field $\delta F_{dynamic} = 1.0$ %
- 68/ Cav. Field $\delta F_{dynamic} = 1.5$ %
- 69/ Cav. Field $\delta F_{dynamic} = 2.0$ %
- 70/ Cav. Field $\delta F_{dynamic} = 2.5$ %

- 71/ Cav. Phase $\delta\phi_{static} = 0.5°$
- 72/ Cav. Phase $\delta\phi_{static} = 1.0°$
- 73/ Cav. Phase $\delta\phi_{static} = 1.5°$
- 74/ Cav. Phase $\delta\phi_{static} = 2.0°$
- 75/ Cav. Phase $\delta\phi_{static} = 2.5°$

- 76/ Cav. Field $\delta F_{static} = 0.5$ %
- 77/ Cav. Field $\delta F_{static} = 1.0$ %
- 78/ Cav. Field $\delta F_{static} = 1.5$ %
- 79/ Cav. Field $\delta F_{static} = 2.0$ %
- 80/ Cav. Field $\delta F_{static} = 2.5$ %

(01) Solenoids $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

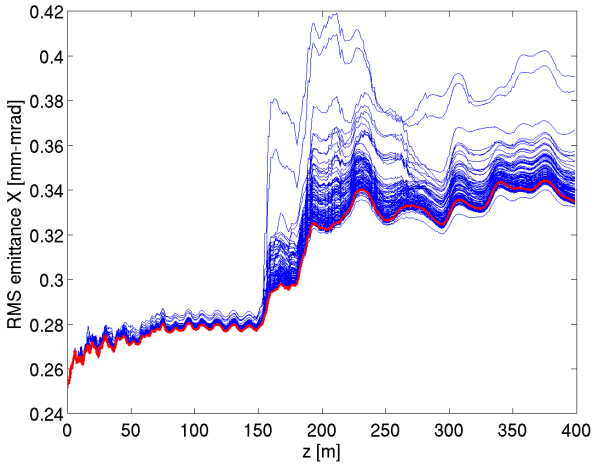


Figure: RMS Emittance Y

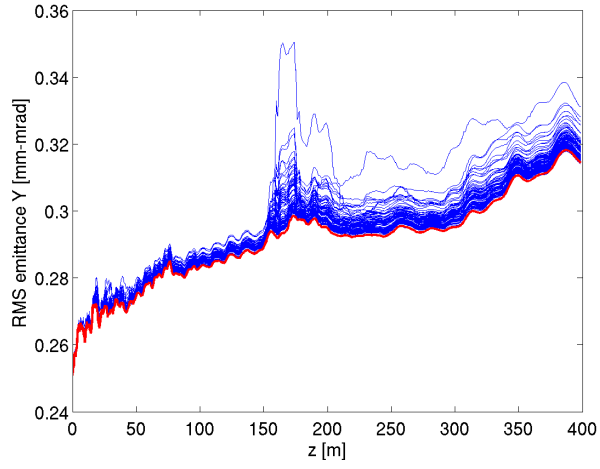


Figure: RMS Emittance Z

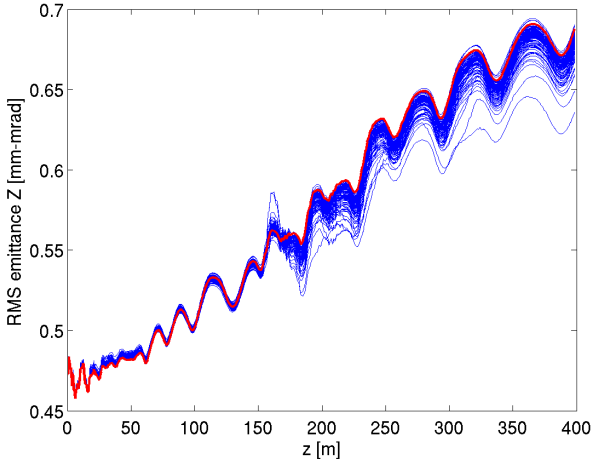
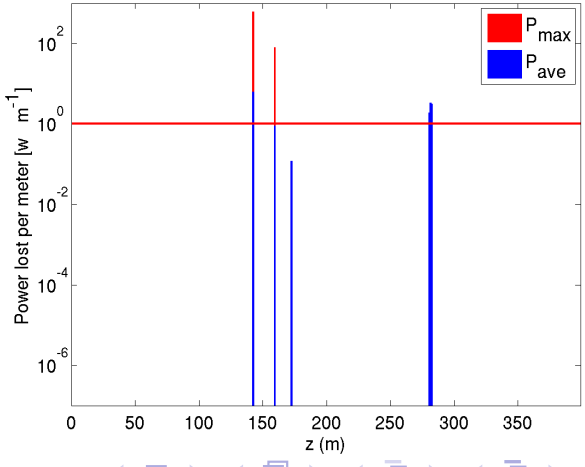


Figure: Losses [W·m^{-1}]



(02) Solenoids $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

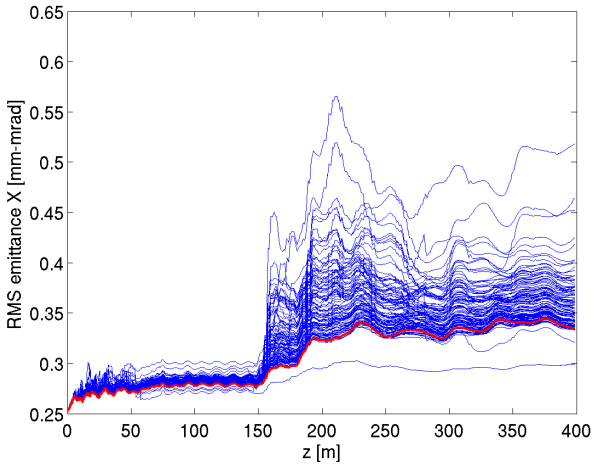


Figure: RMS Emittance Y

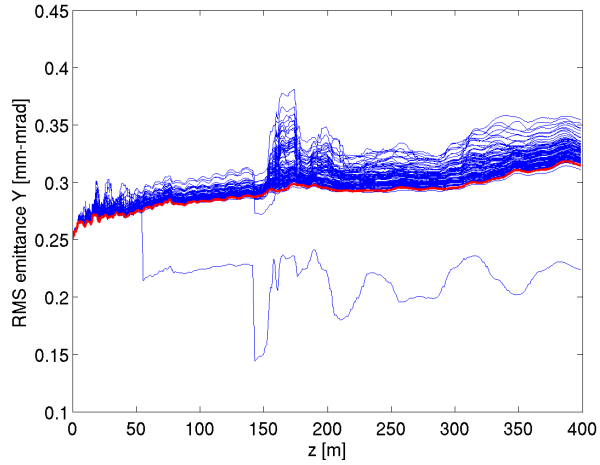


Figure: RMS Emittance Z

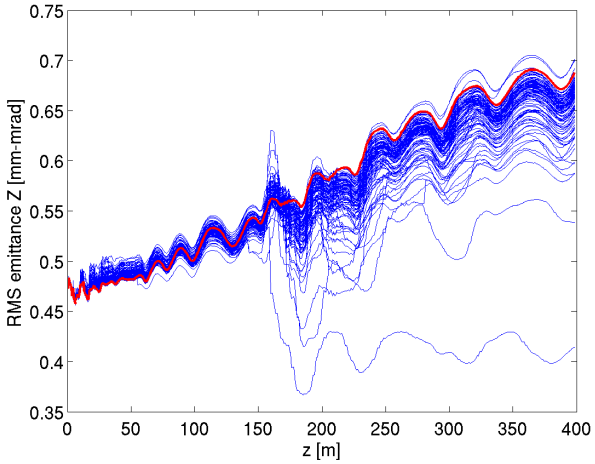
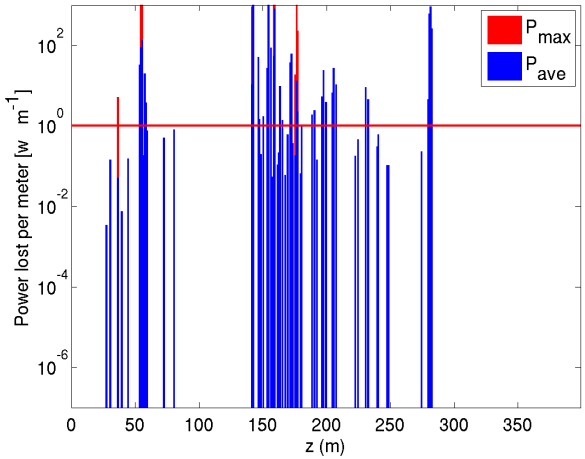


Figure: Losses [W·m^{-1}]



(03) Solenoids $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

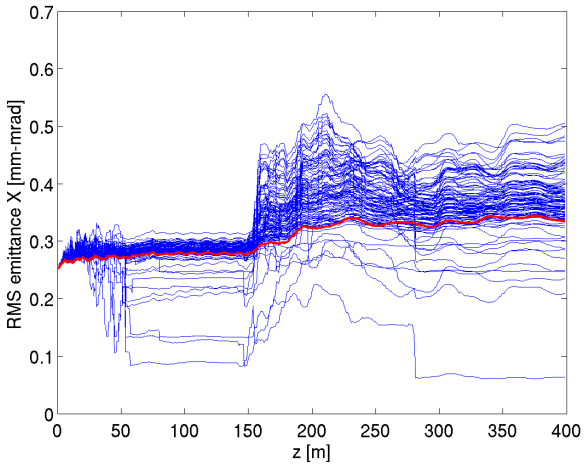


Figure: RMS Emittance Y

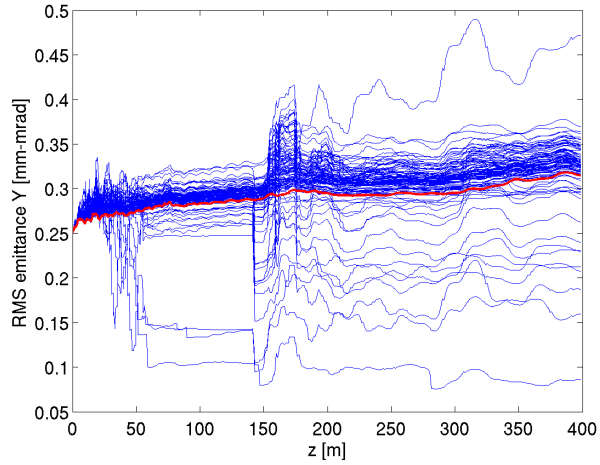


Figure: RMS Emittance Z

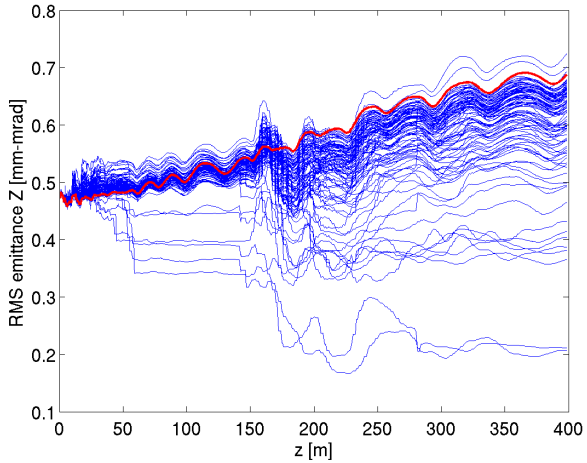
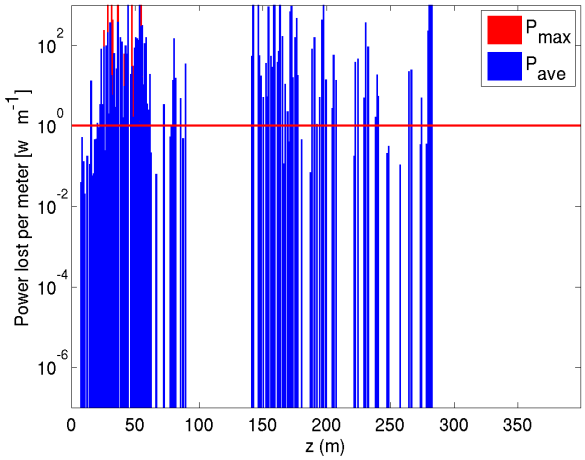


Figure: Losses [W·m^{-1}]



(04) Solenoids $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

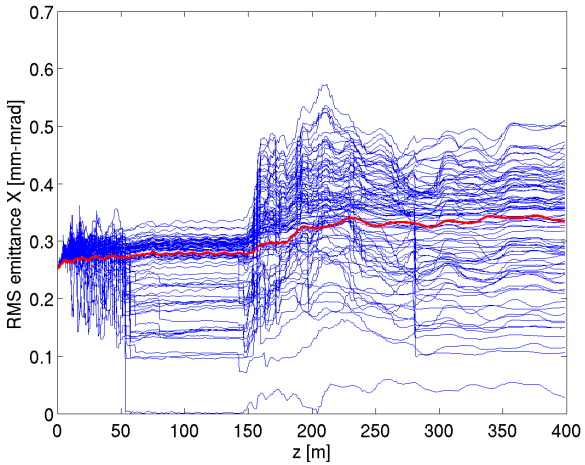


Figure: RMS Emittance Y

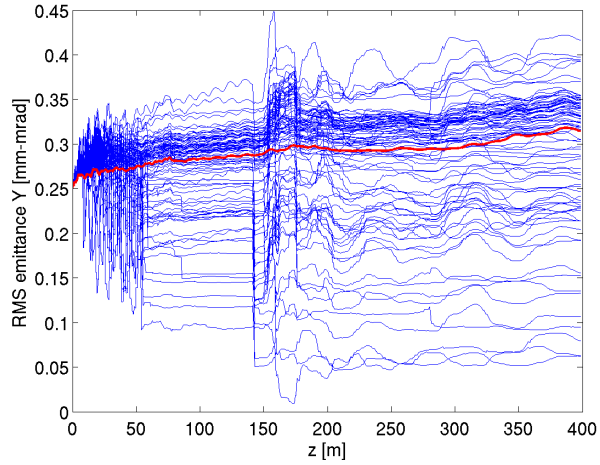


Figure: RMS Emittance Z

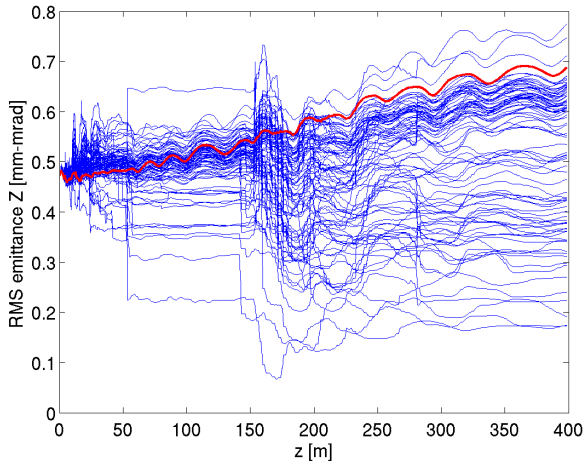
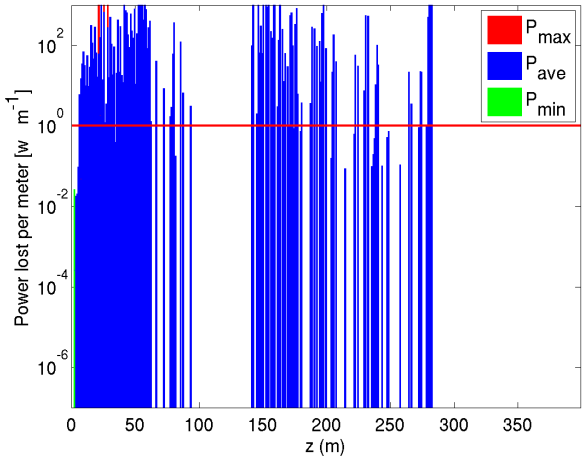


Figure: Losses [W·m^{-1}]



(05) Solenoids $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

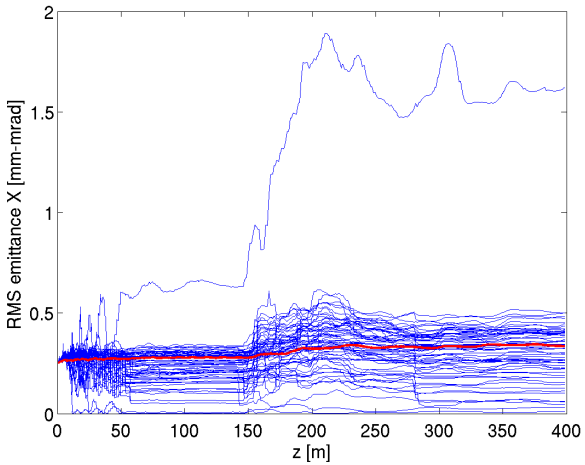


Figure: RMS Emittance Y

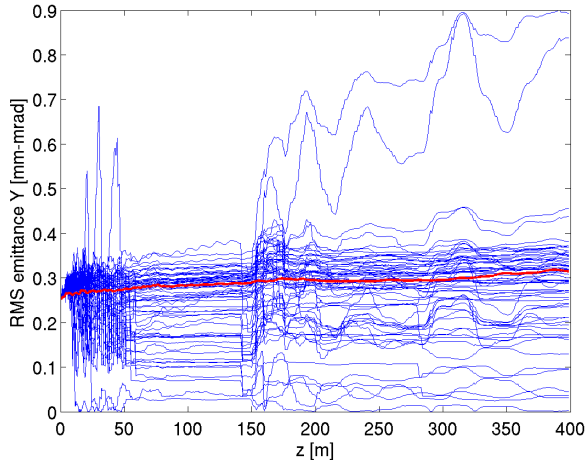


Figure: RMS Emittance Z

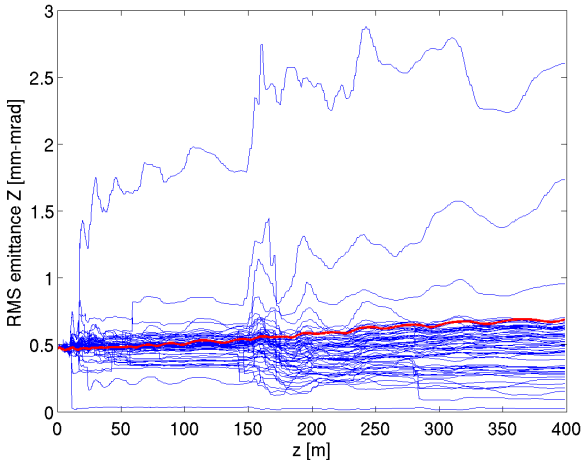
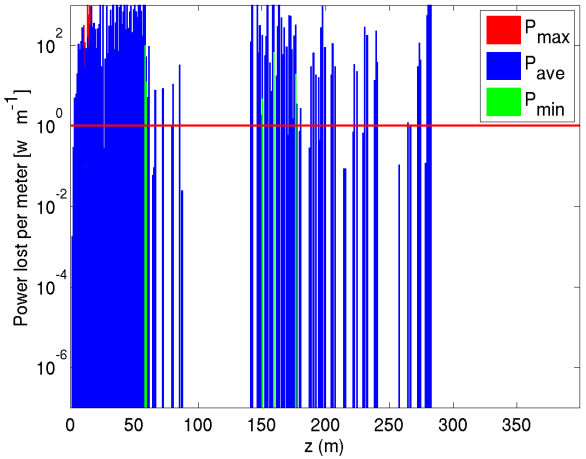


Figure: Losses [W·m^{-1}]



(06) Solenoids $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

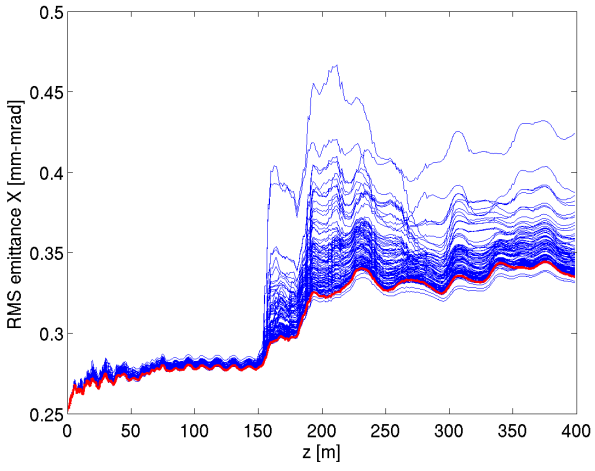


Figure: RMS Emittance Y

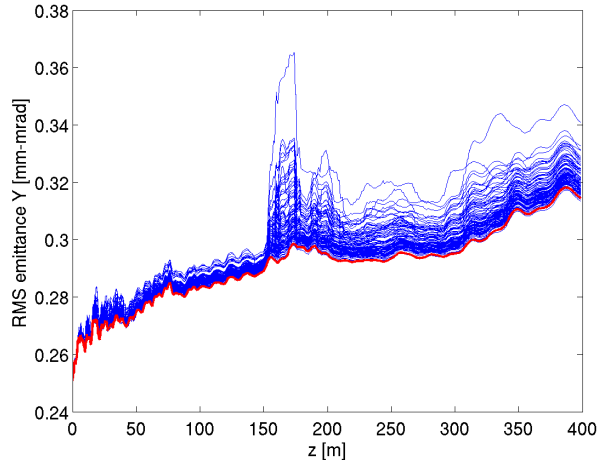


Figure: RMS Emittance Z

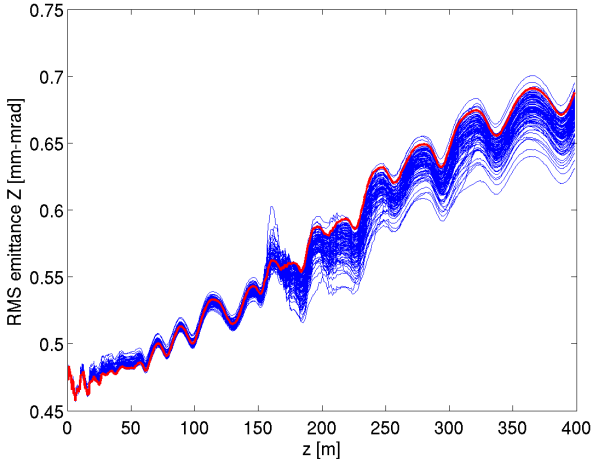
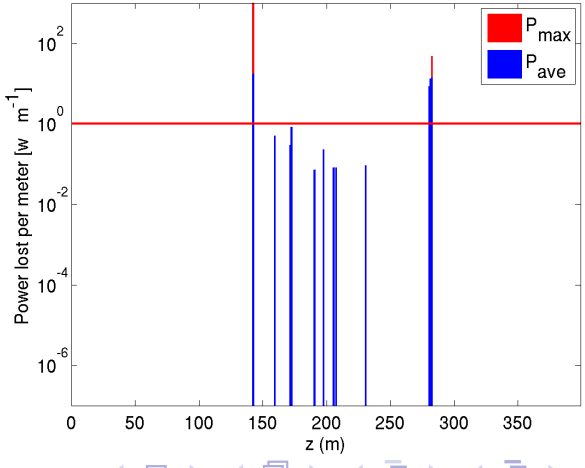


Figure: Losses [W·m^{-1}]



(07) Solenoids $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

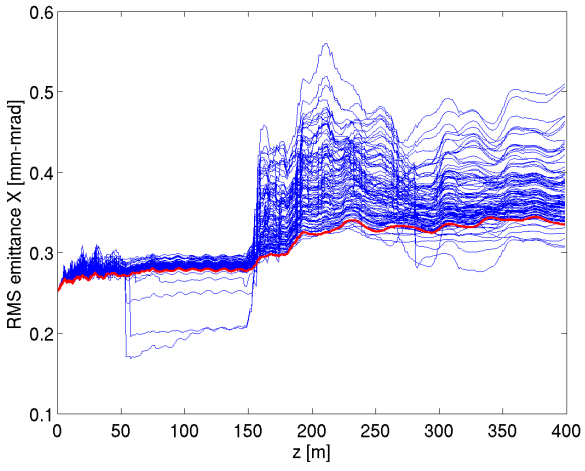


Figure: RMS Emittance Y

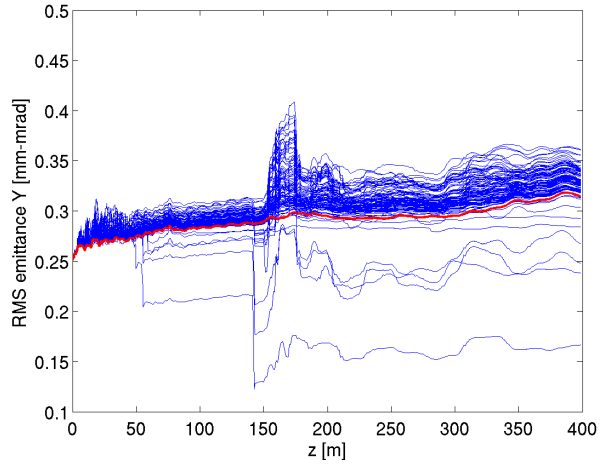


Figure: RMS Emittance z

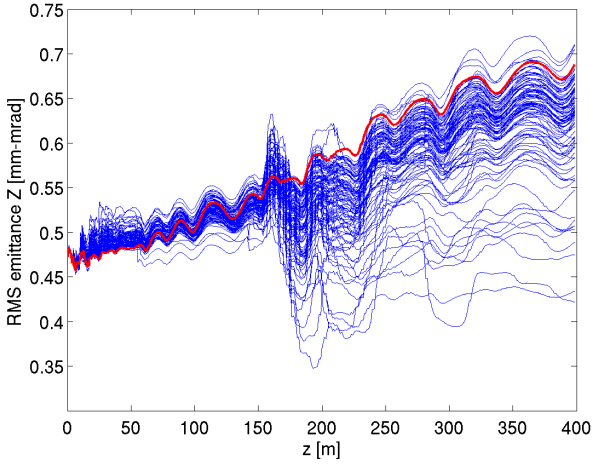
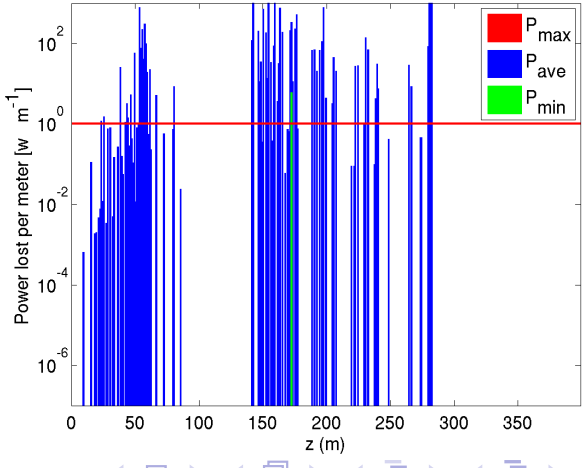


Figure: Losses [W·m^{-1}]



(08) Solenoids $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

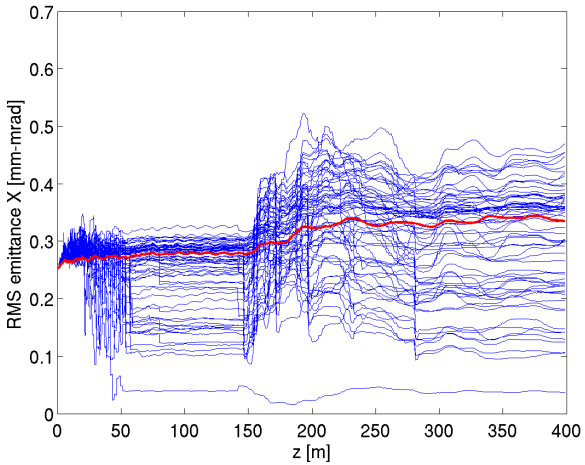


Figure: RMS Emittance Y

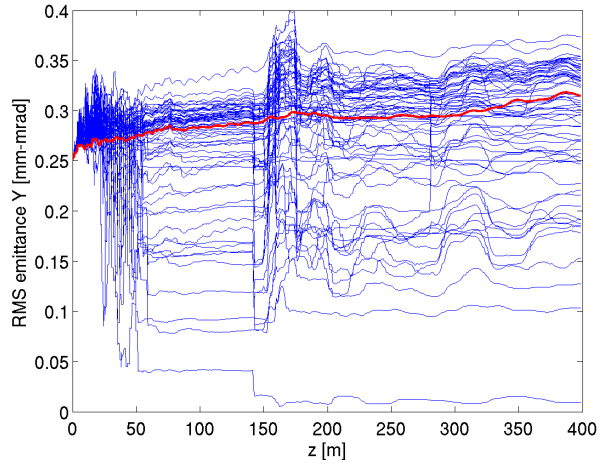


Figure: RMS Emittance Z

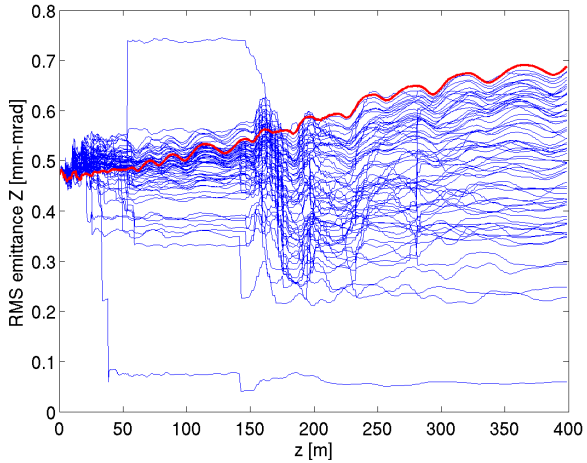
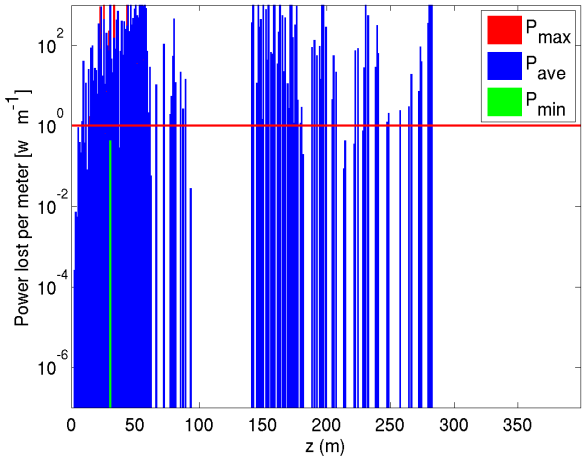


Figure: Losses [W·m^{-1}]



(09) Solenoids $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

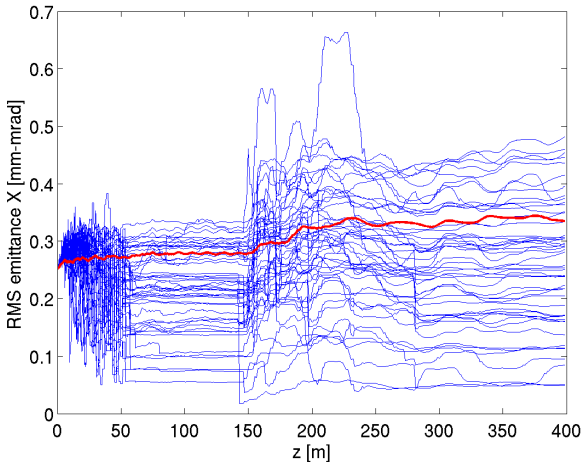


Figure: RMS Emittance Y

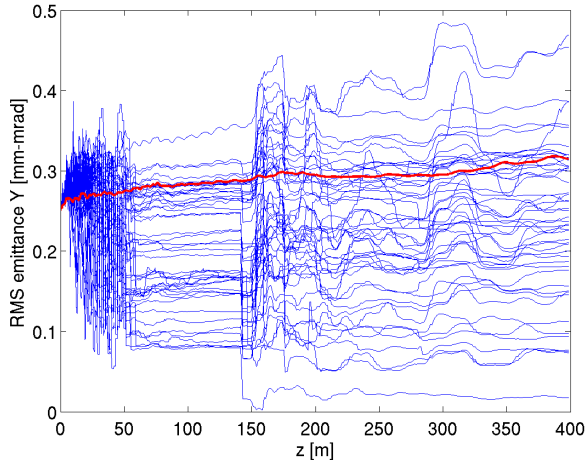


Figure: RMS Emittance Z

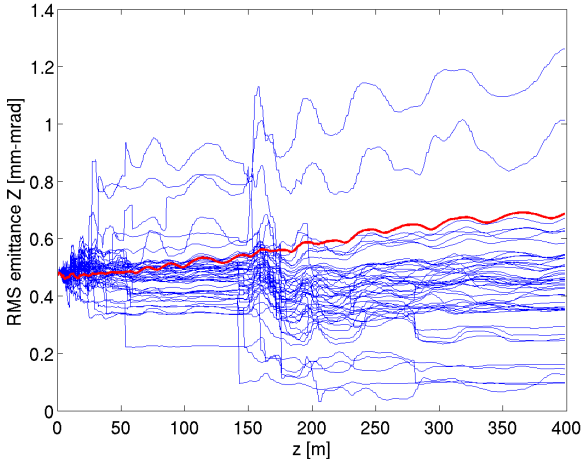
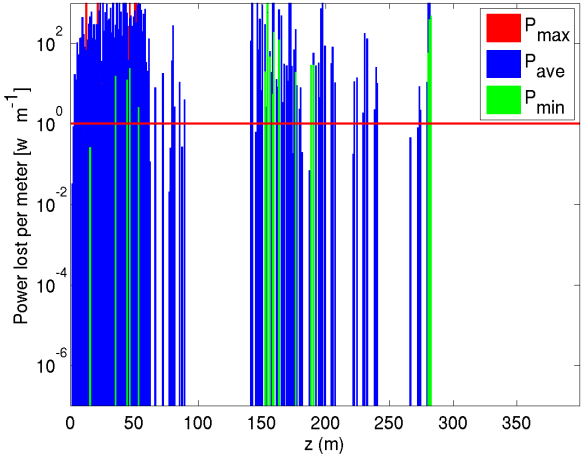


Figure: Losses [W·m^{-1}]



(10) Solenoids $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

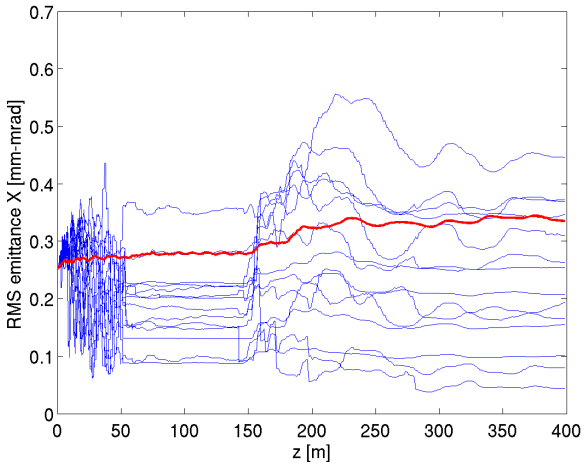


Figure: RMS Emittance Y

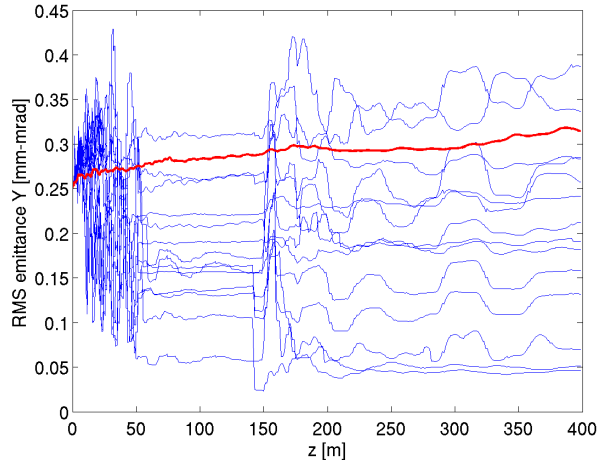


Figure: RMS Emittance Z

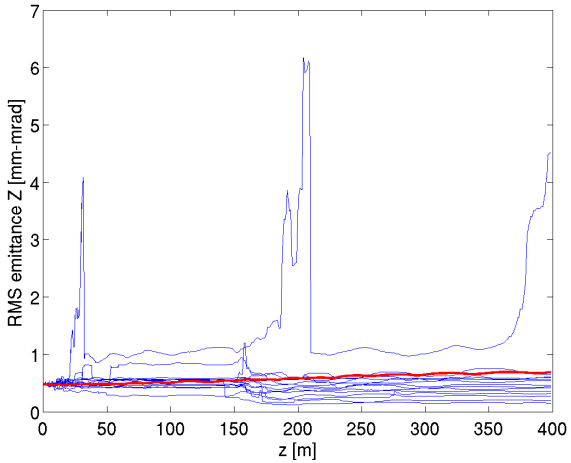
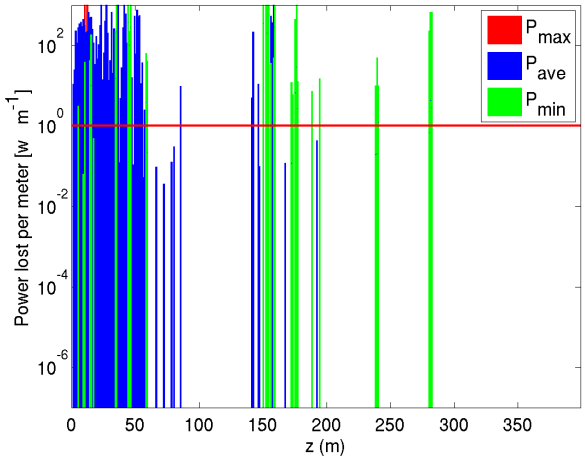


Figure: Losses [W·m^{-1}]



(11) Sol. Field $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

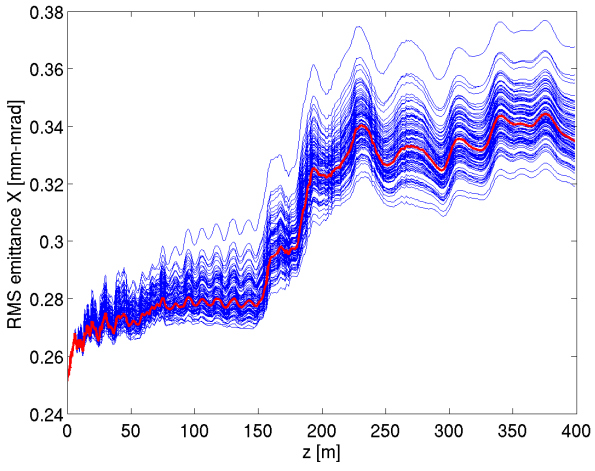


Figure: RMS Emittance Y

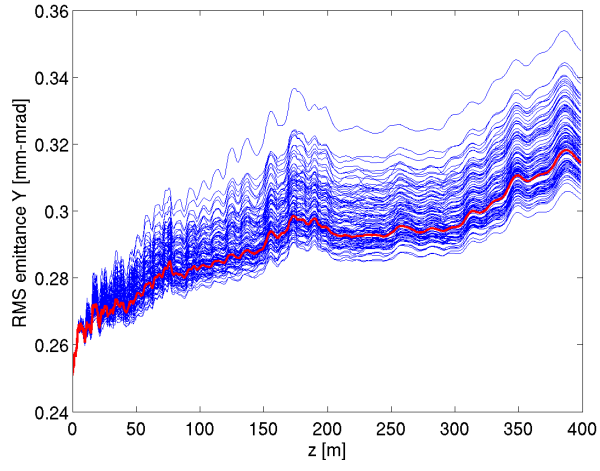


Figure: RMS Emittance Z

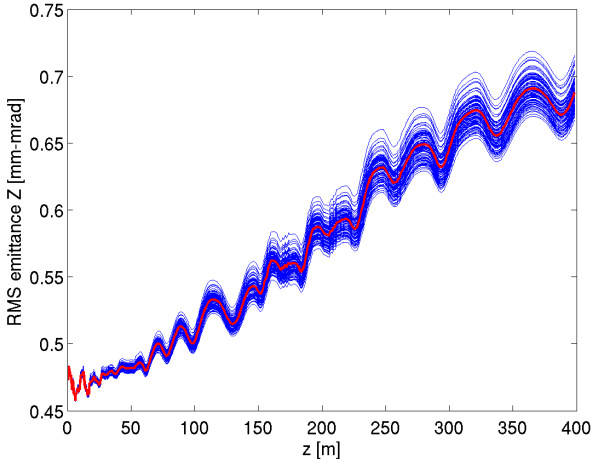
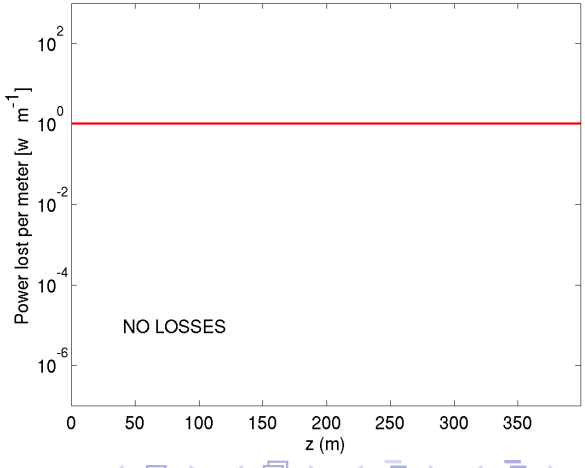


Figure: Losses [W·m^{-1}]



(12) Sol. Field $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

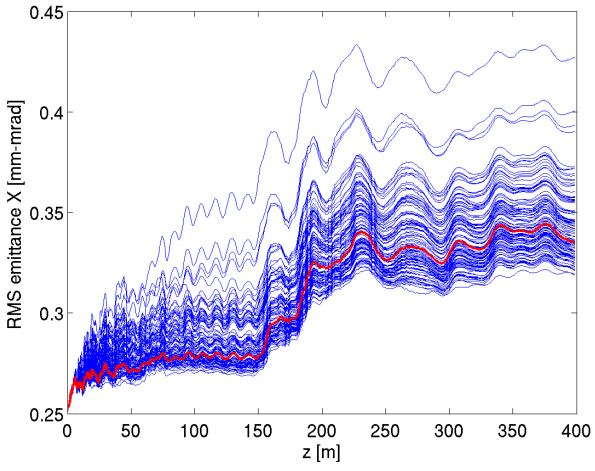


Figure: RMS Emittance Y

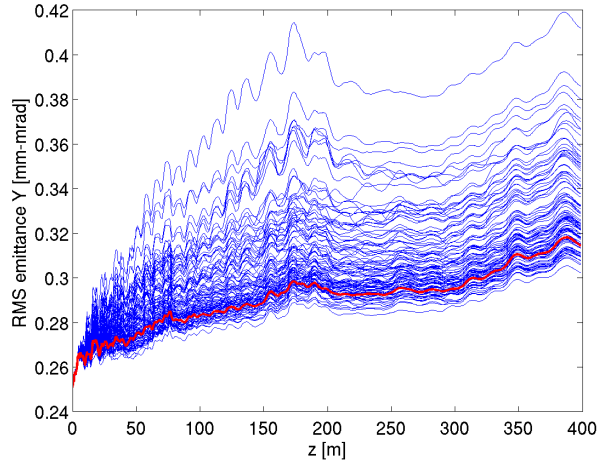


Figure: RMS Emittance Z

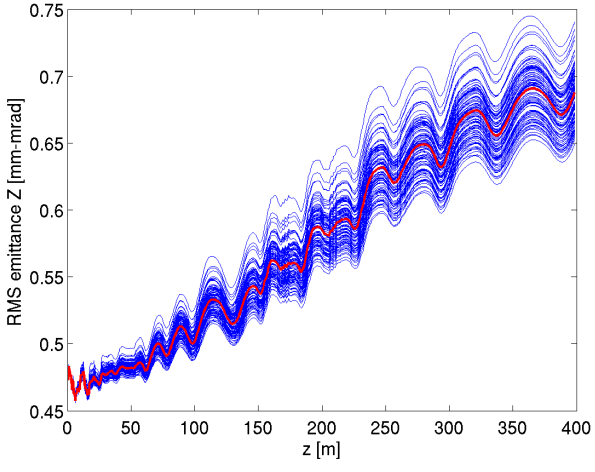
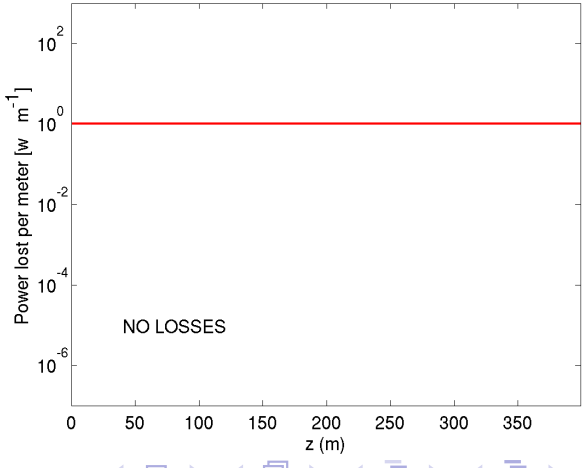


Figure: Losses [W·m^{-1}]



(13) Sol. Field $\delta F_{dynamic} = 1.5\ \%$

Figure: RMS Emittance X

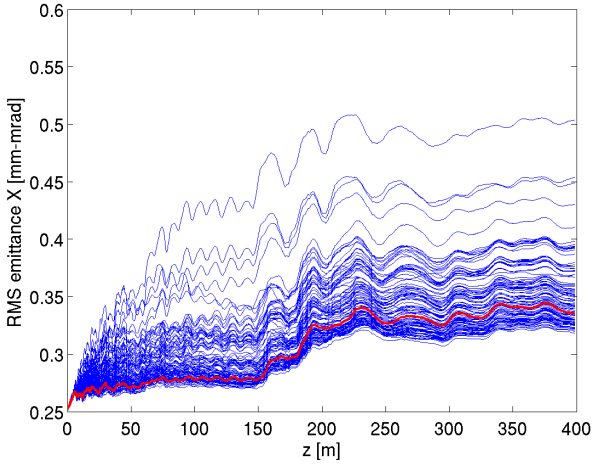


Figure: RMS Emittance Y

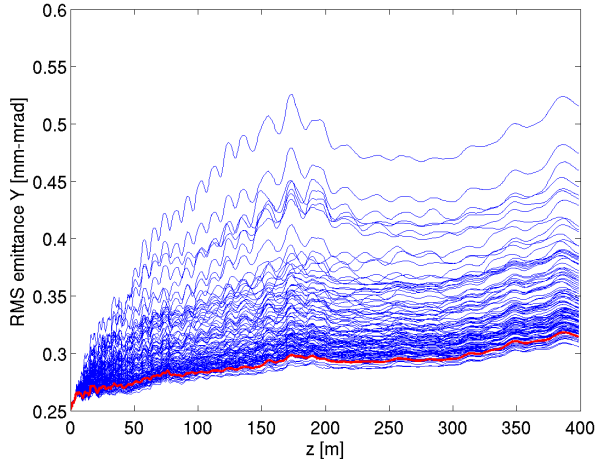


Figure: RMS Emittance Z

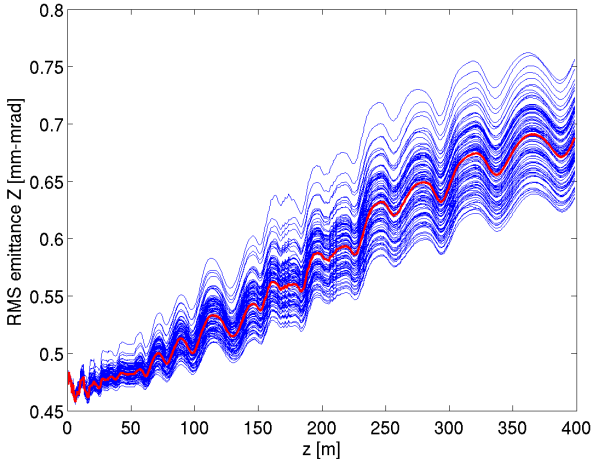
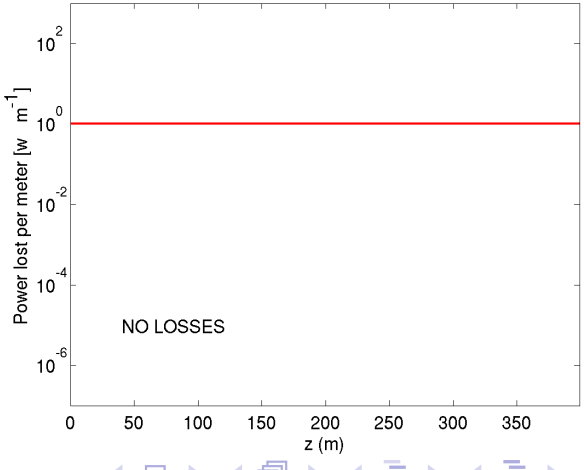


Figure: Losses [W·m^{-1}]



(14) Sol. Field $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

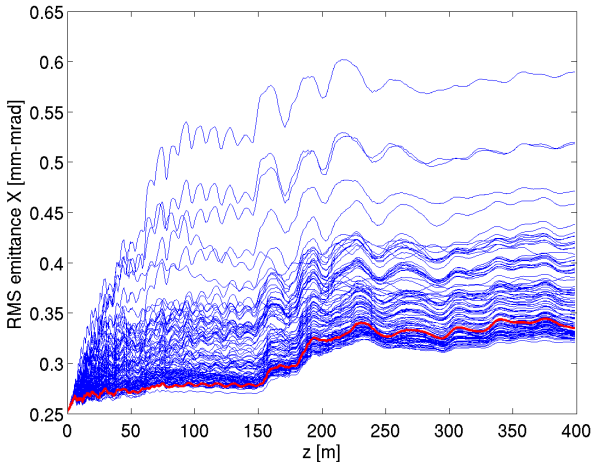


Figure: RMS Emittance Y

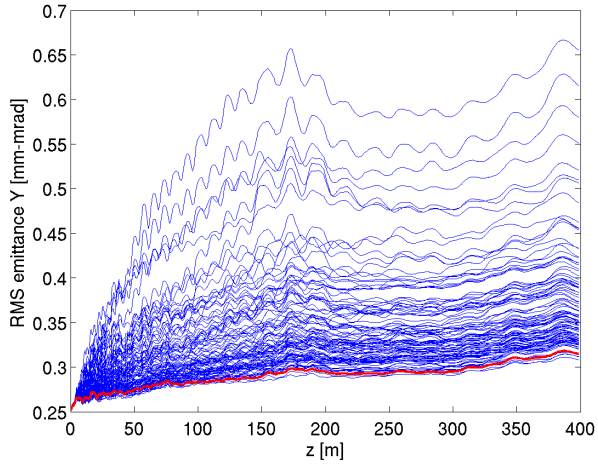


Figure: RMS Emittance Z

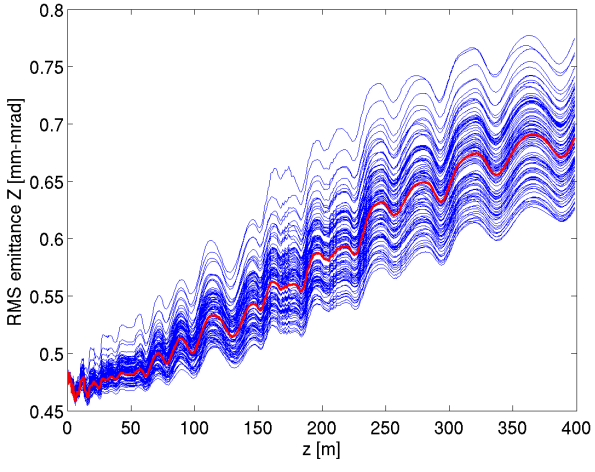
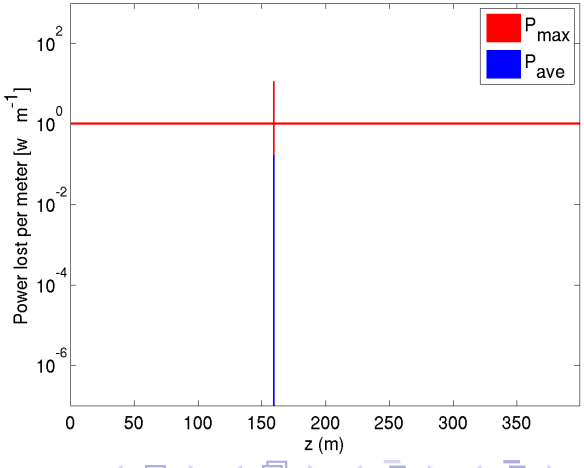


Figure: Losses [W·m^{-1}]



(15) Sol. Field $\delta F_{dynamic} = 2.5\ \%$

Figure: RMS Emittance X

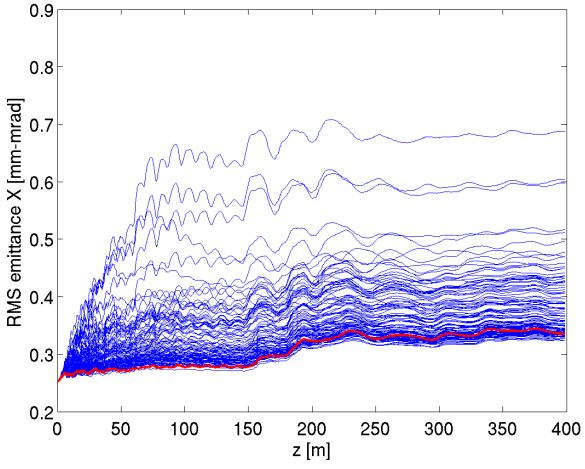


Figure: RMS Emittance Y

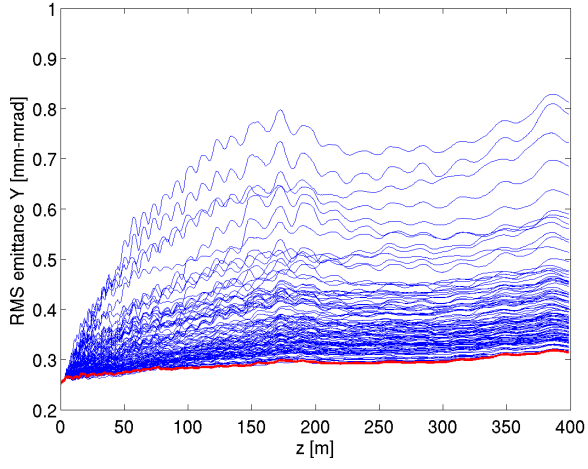


Figure: RMS Emittance Z

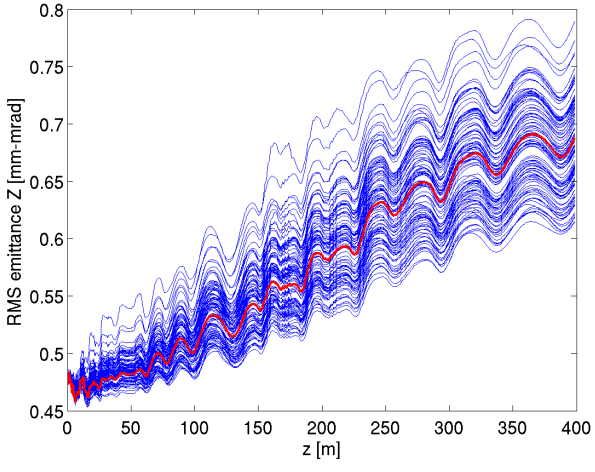
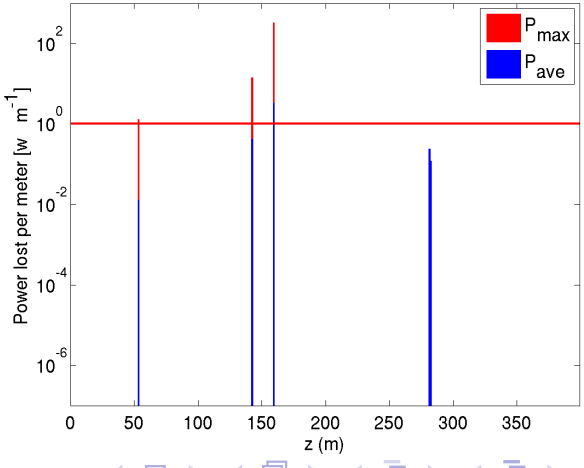


Figure: Losses [W·m^{-1}]



(16) Sol. Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

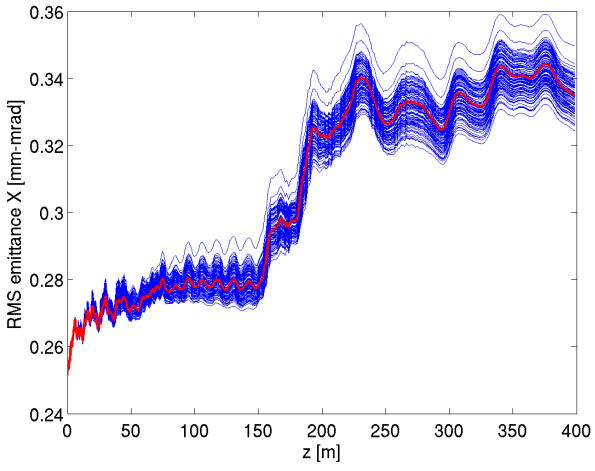


Figure: RMS Emittance Y

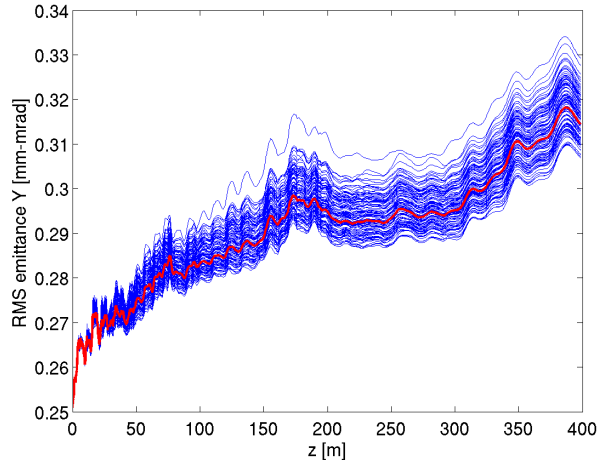


Figure: RMS Emittance Z

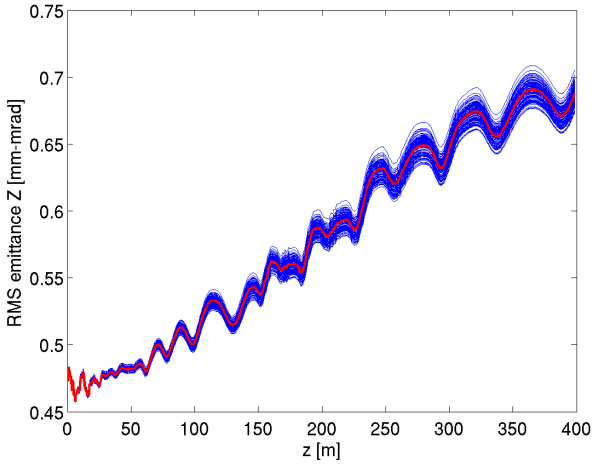
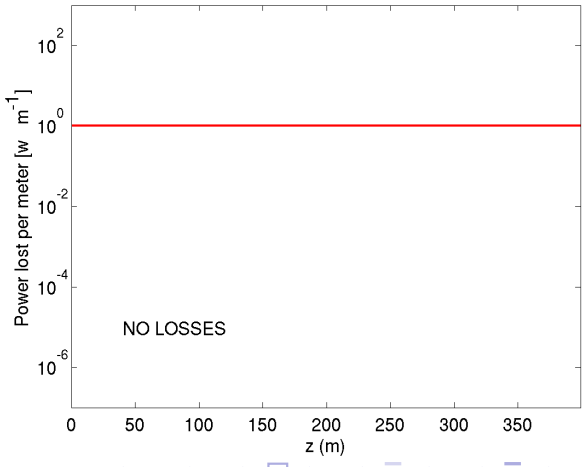


Figure: Losses [W·m^{-1}]



(17) Sol. Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

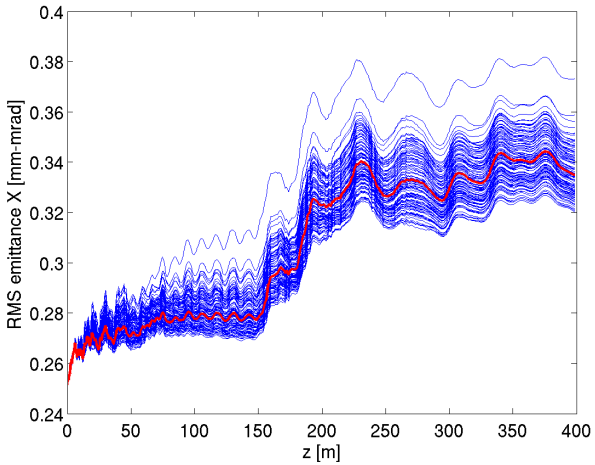


Figure: RMS Emittance Y

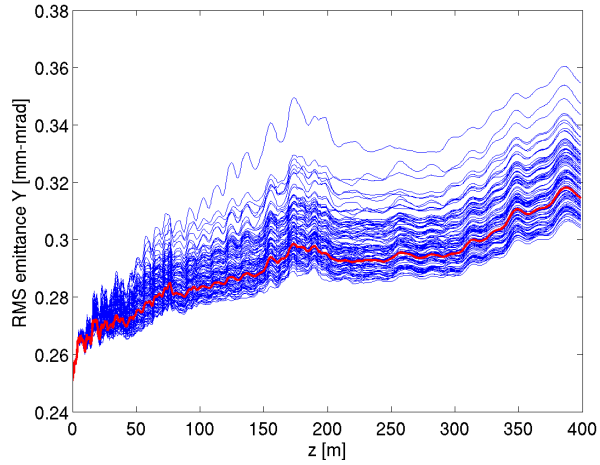


Figure: RMS Emittance Z

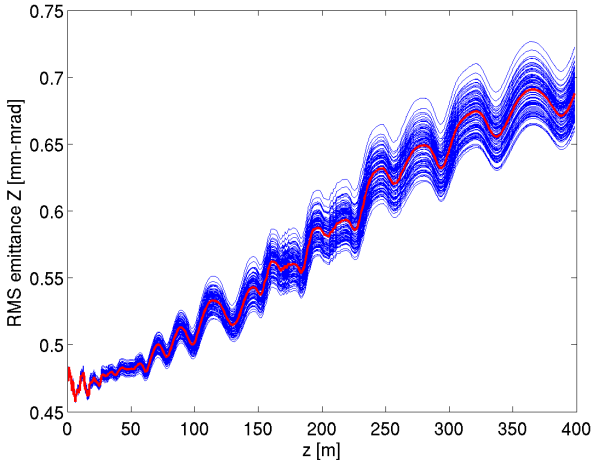
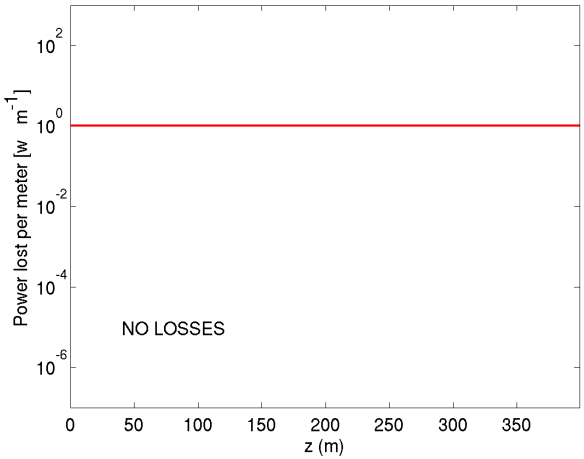


Figure: Losses [W·m^{-1}]



(18) Sol. Field $\delta F_{static} = 1.5\ \%$

Figure: RMS Emittance X

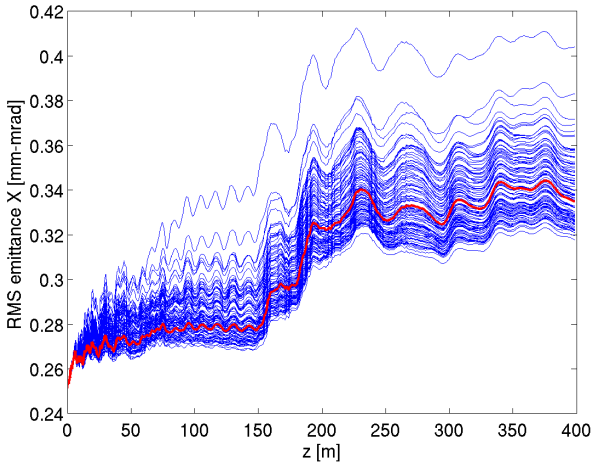


Figure: RMS Emittance Y

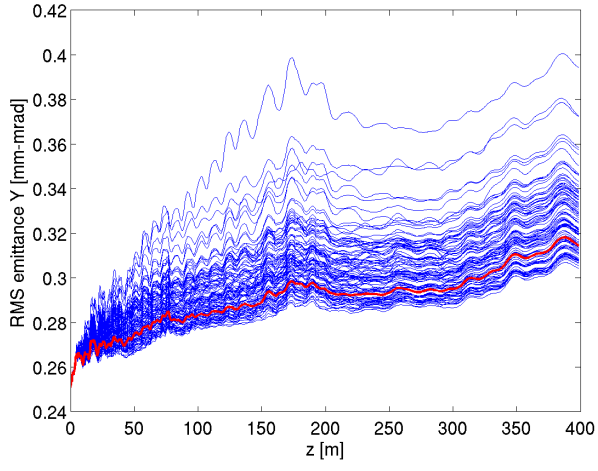


Figure: RMS Emittance Z

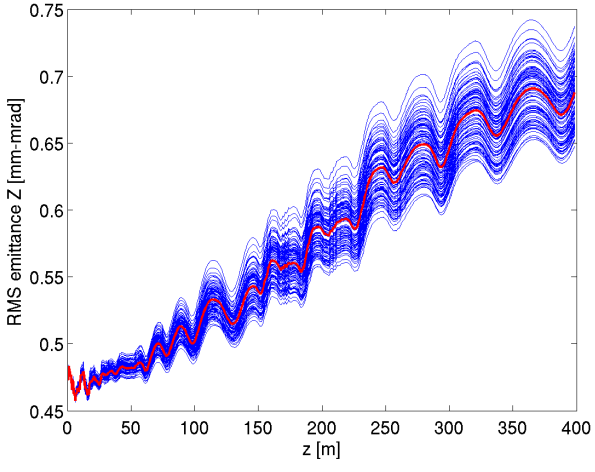
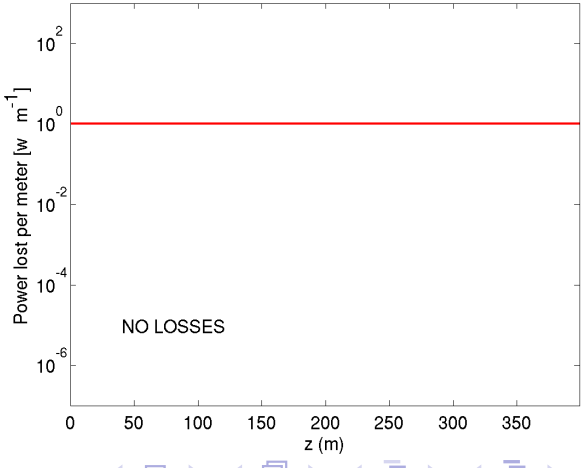


Figure: Losses [W·m^{-1}]



(19) Sol. Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

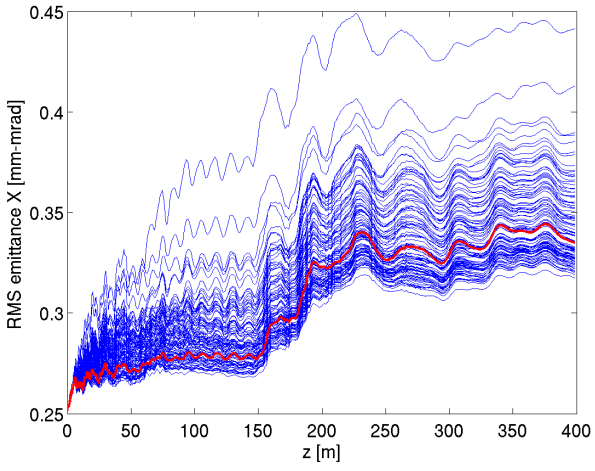


Figure: RMS Emittance Y

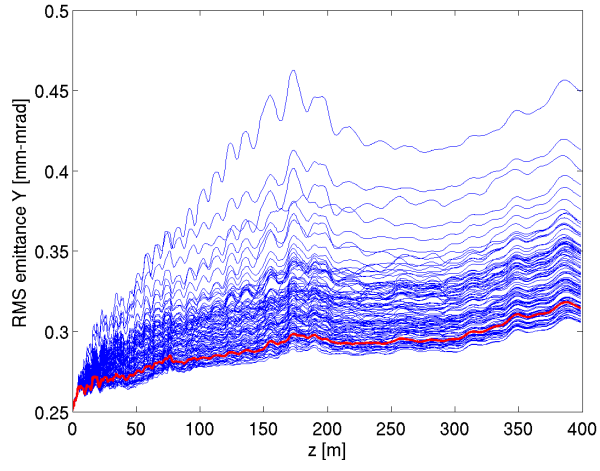


Figure: RMS Emittance Z

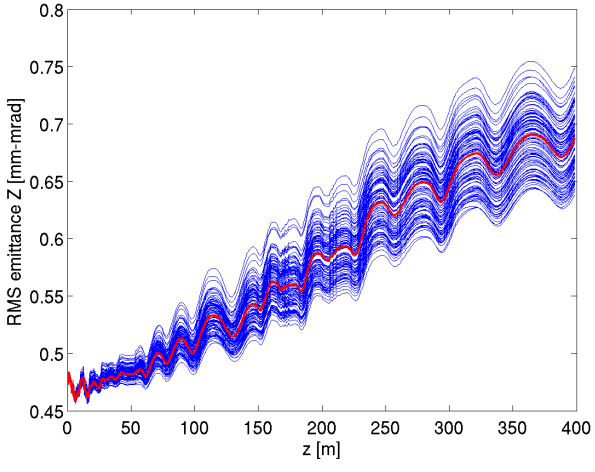
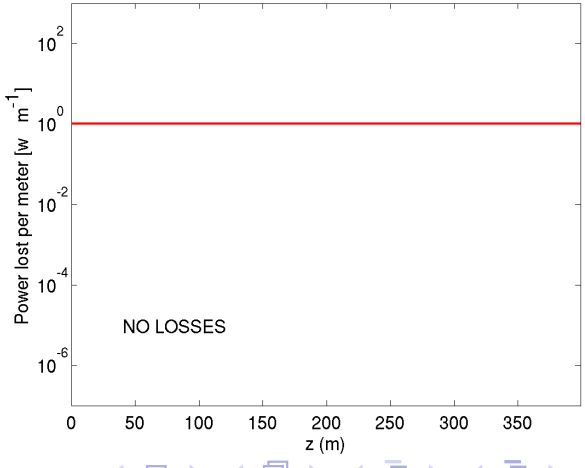


Figure: Losses [W·m^{-1}]



(20) Sol. Field $\delta F_{static} = 2.5$ %

Figure: RMS Emittance X

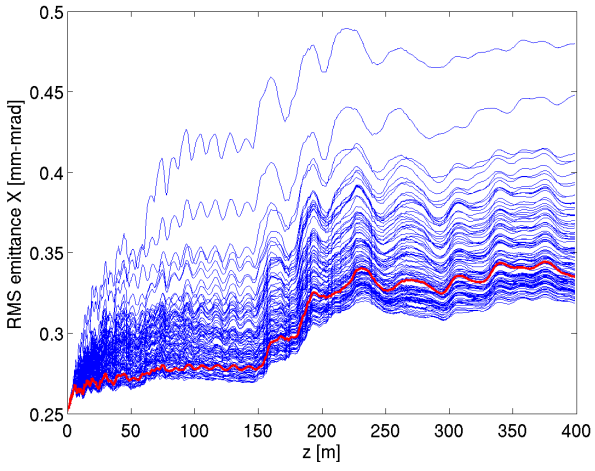


Figure: RMS Emittance Y

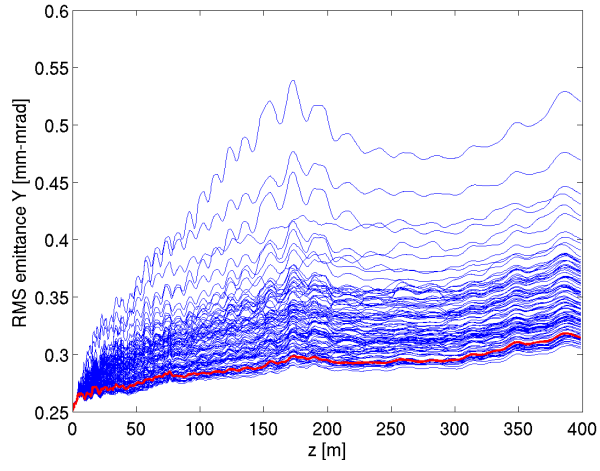


Figure: RMS Emittance Z

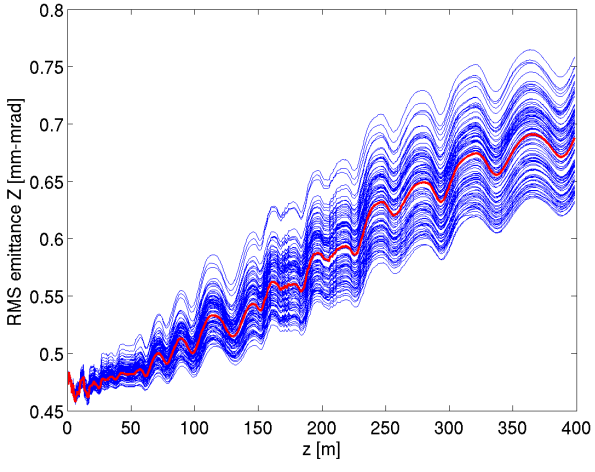
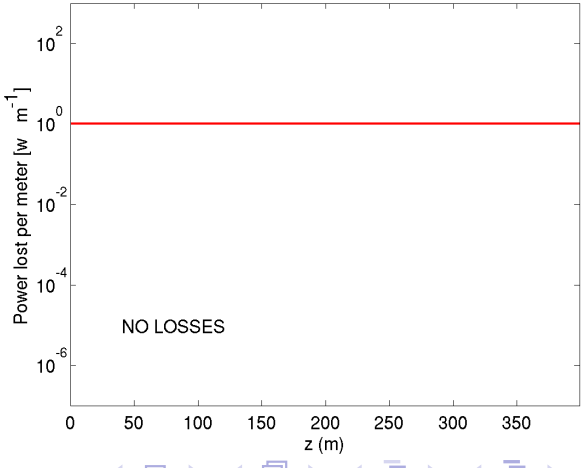


Figure: Losses [W·m^{-1}]



(21) Quads $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

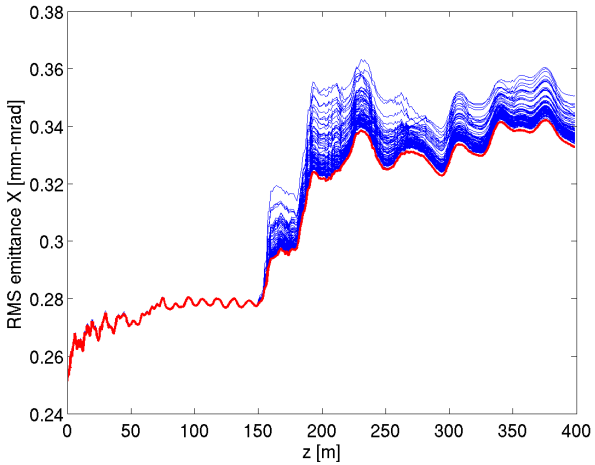


Figure: RMS Emittance Y

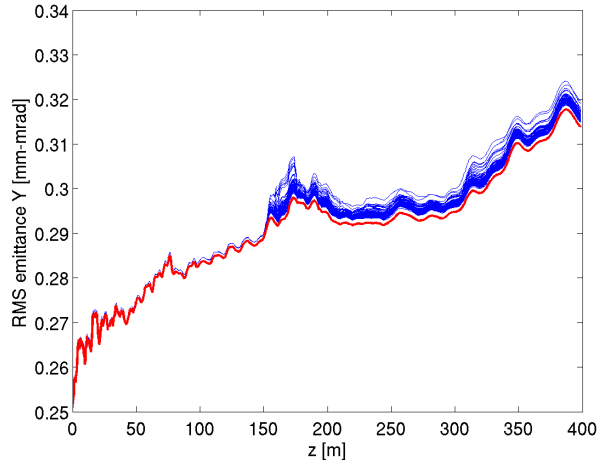


Figure: RMS Emittance Z

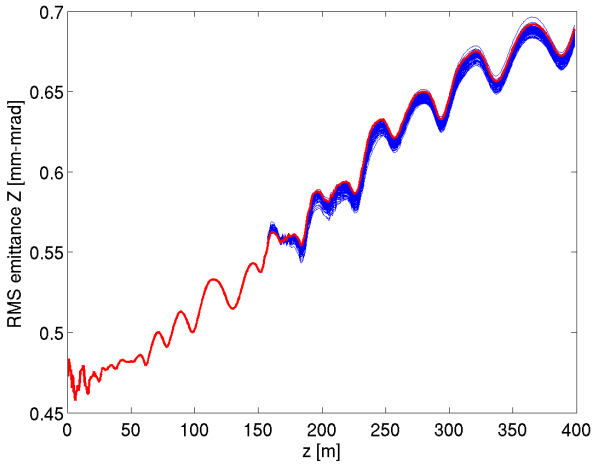
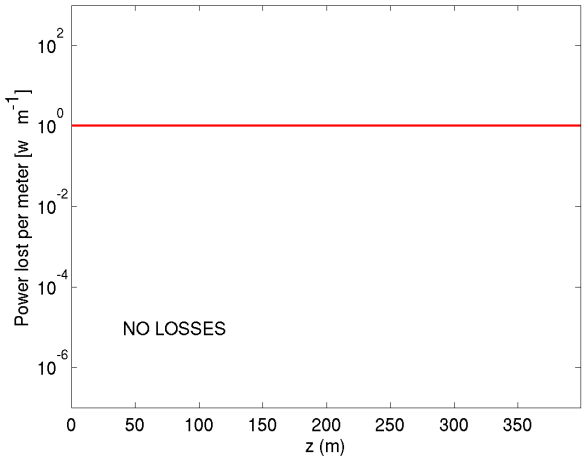


Figure: Losses [W·m^{-1}]



(22) Quads $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

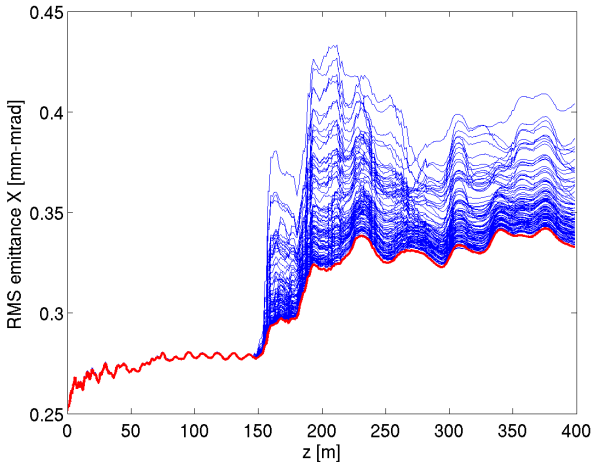


Figure: RMS Emittance Y

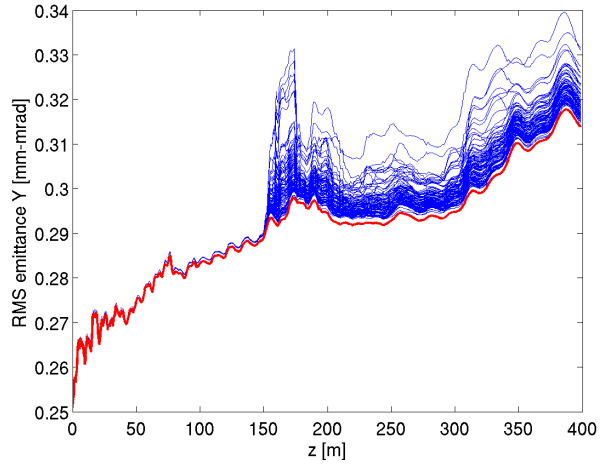


Figure: RMS Emittance Z

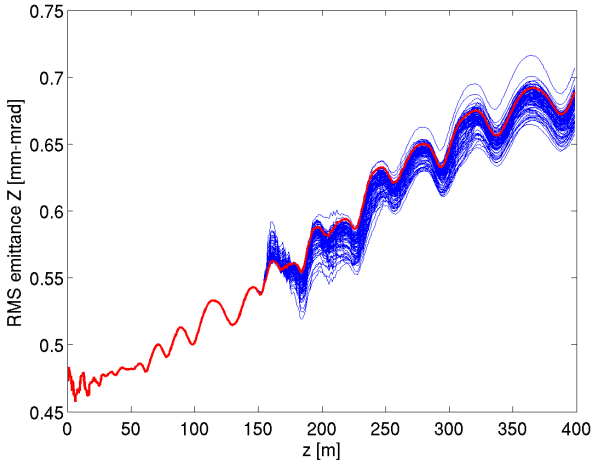
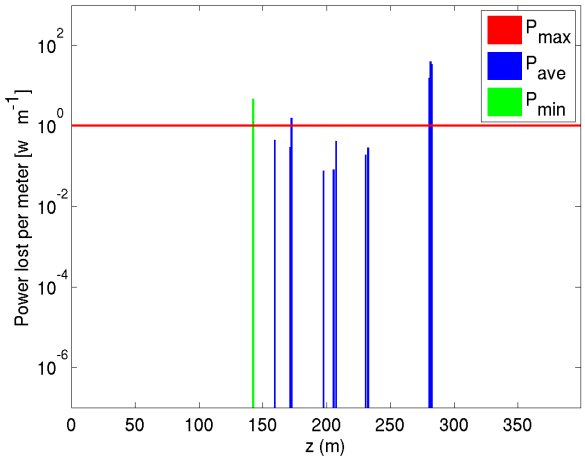


Figure: Losses [W·m^{-1}]



(23) Quads $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

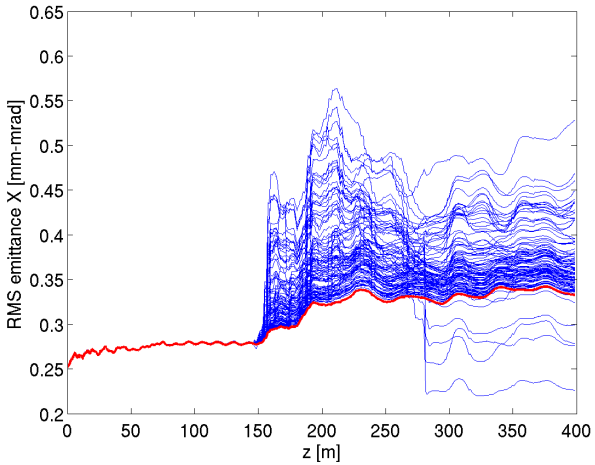


Figure: RMS Emittance Y

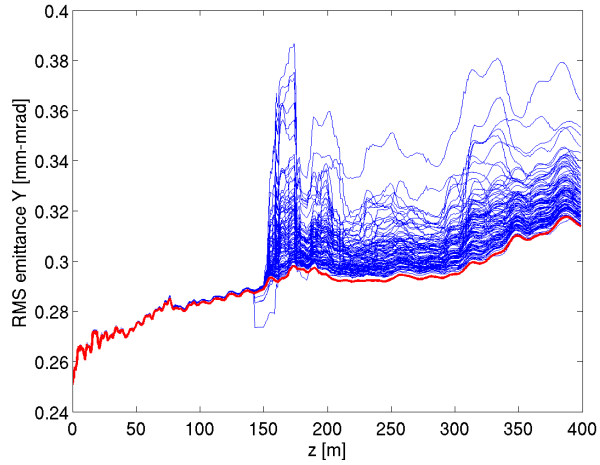


Figure: RMS Emittance Z

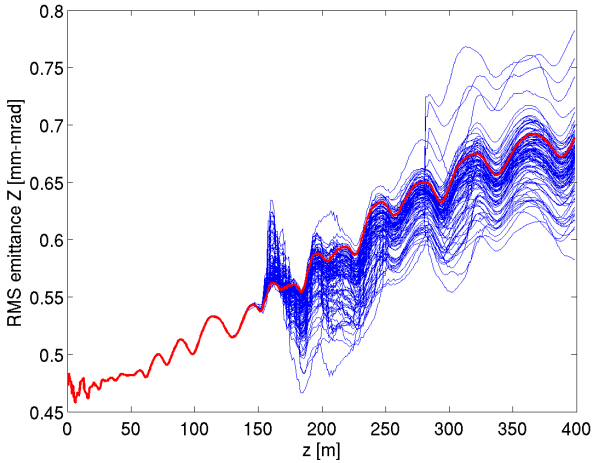
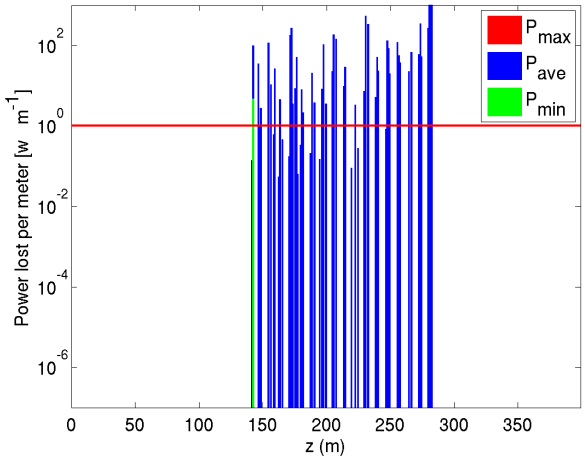


Figure: Losses [W·m^{-1}]



(24) Quads $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

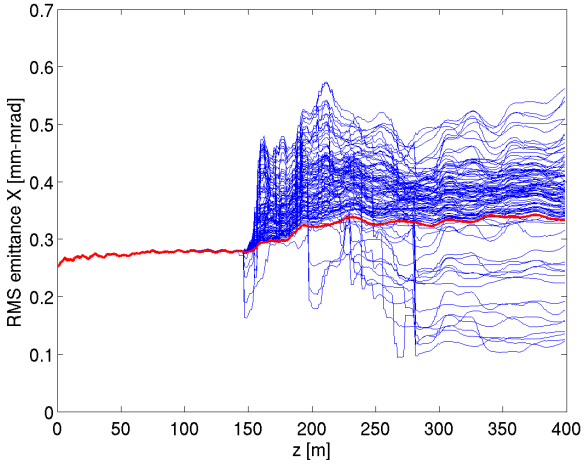


Figure: RMS Emittance Y

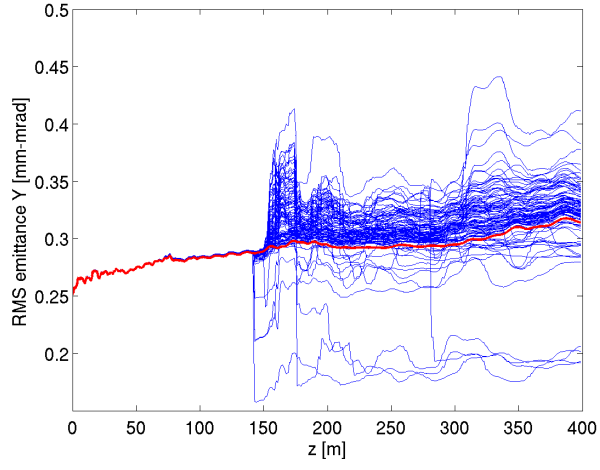


Figure: RMS Emittance Z

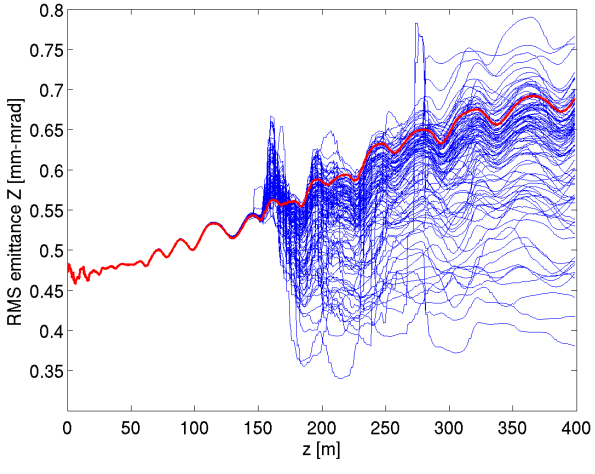
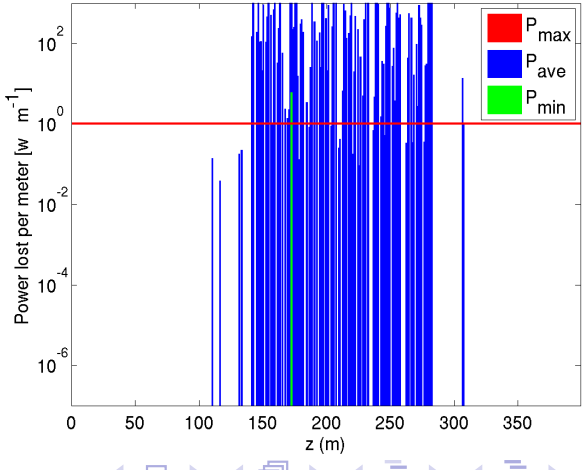


Figure: Losses [W·m^{-1}]



(25) Quads $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

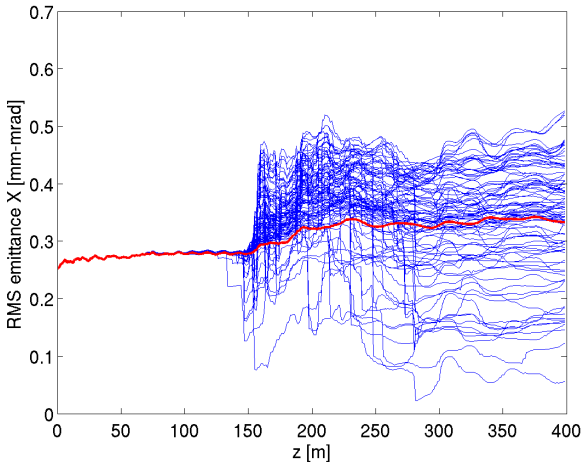


Figure: RMS Emittance Y

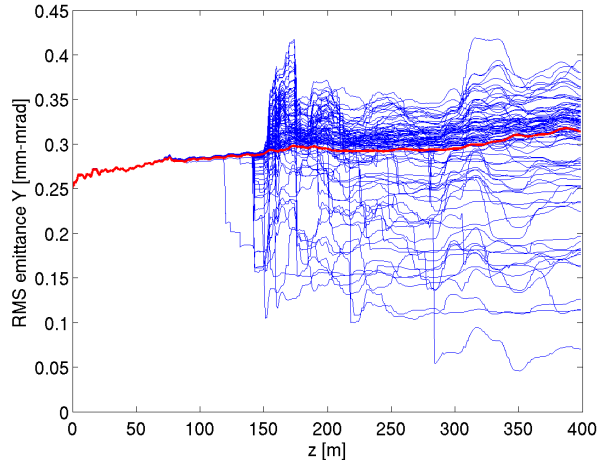


Figure: RMS Emittance Z

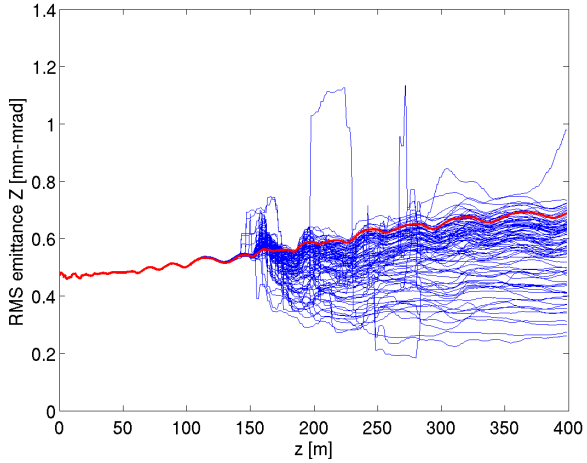
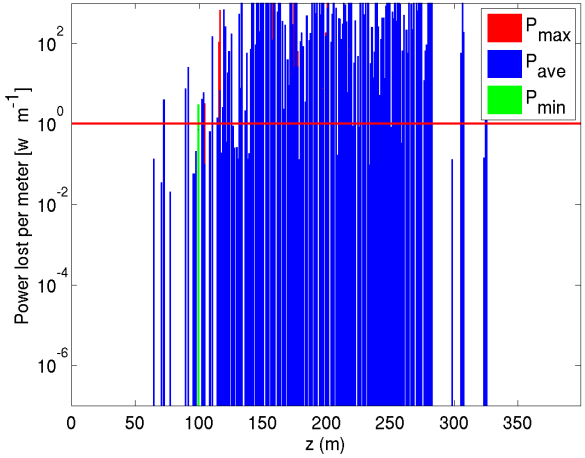


Figure: Losses [W·m^{-1}]



(26) Quads $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

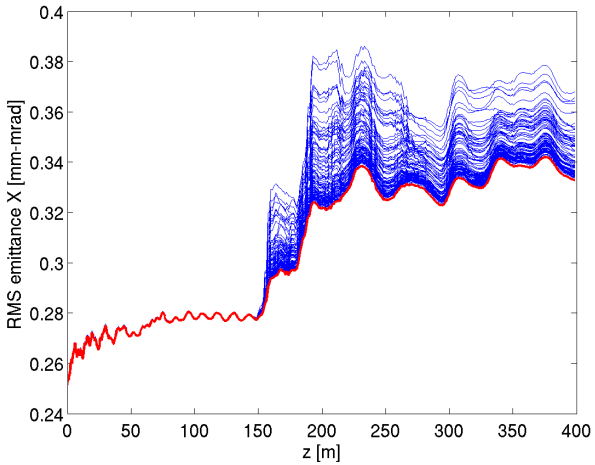


Figure: RMS Emittance Y

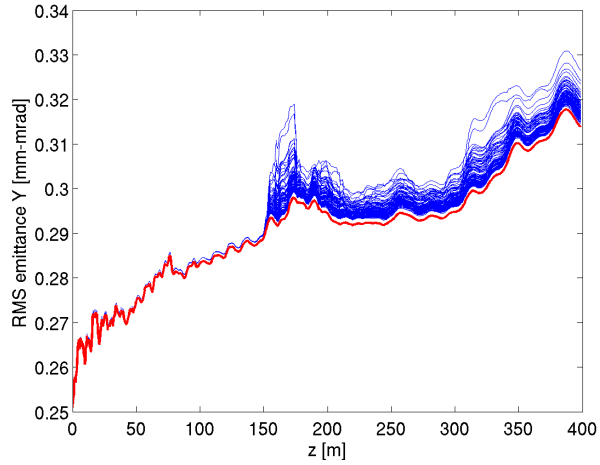


Figure: RMS Emittance Z

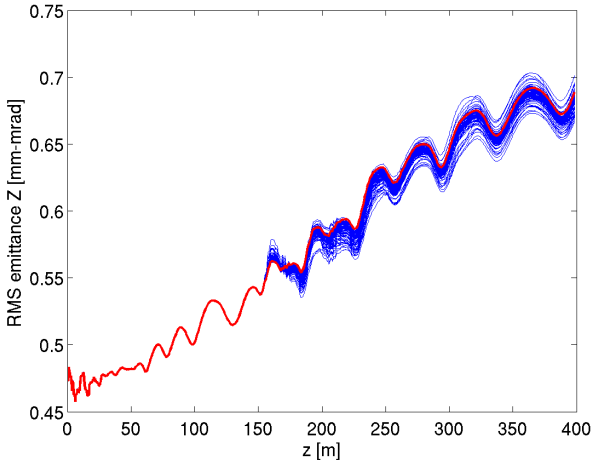
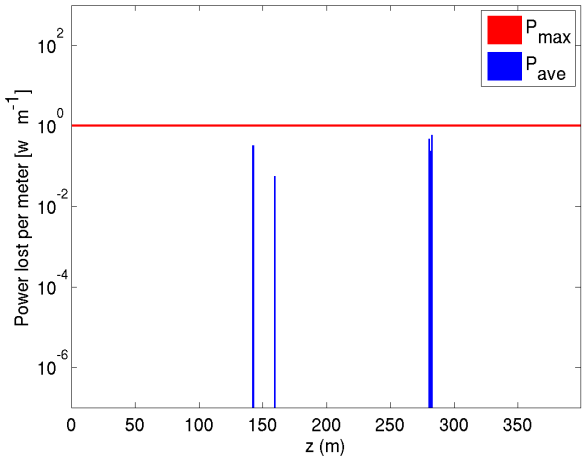


Figure: Losses [W·m^{-1}]



(27) Quads $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

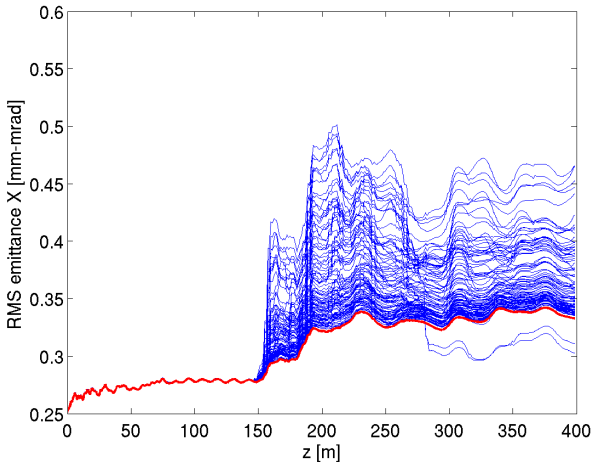


Figure: RMS Emittance Y

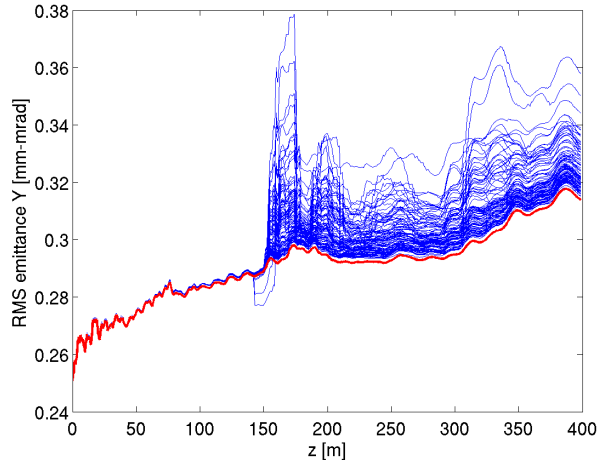


Figure: RMS Emittance z

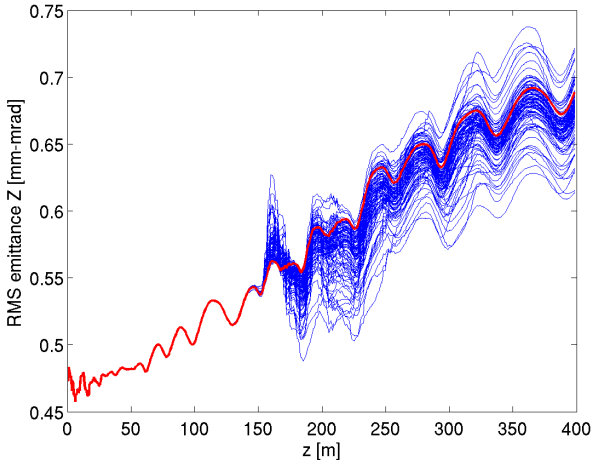
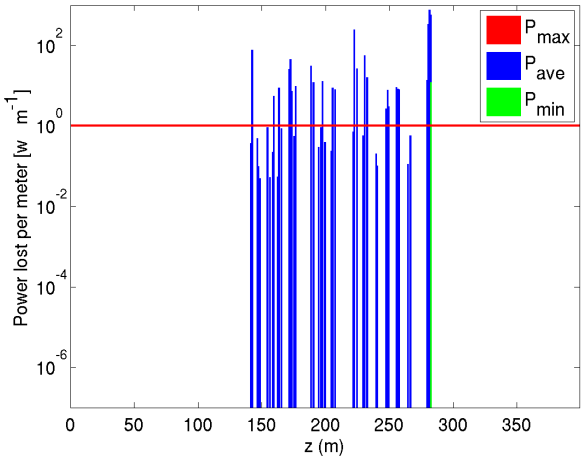


Figure: Losses [W·m^{-1}]



(28) Quads $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

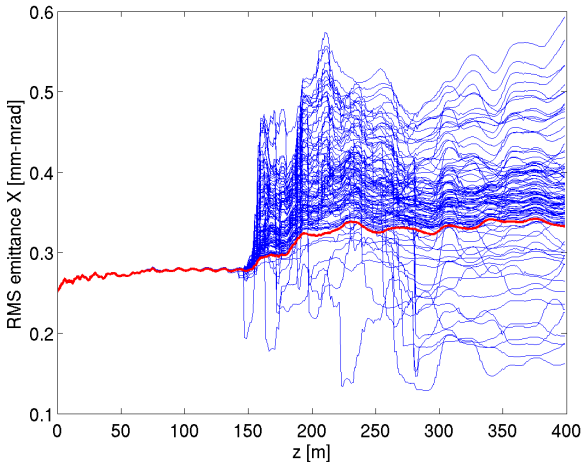


Figure: RMS Emittance Y

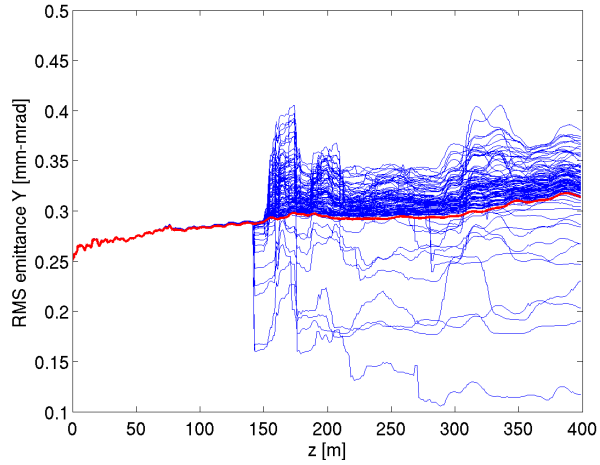


Figure: RMS Emittance Z

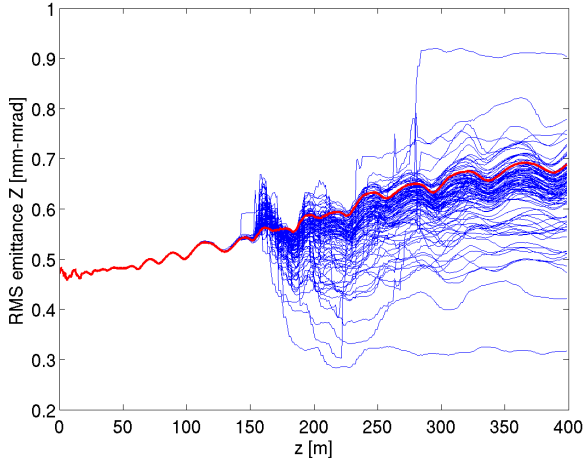
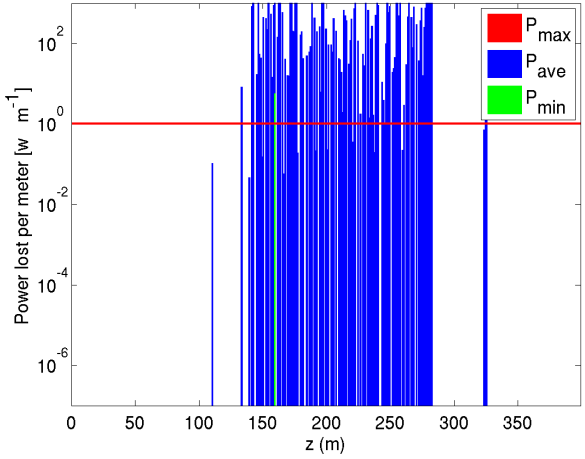


Figure: Losses [W·m^{-1}]



(29) Quads $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

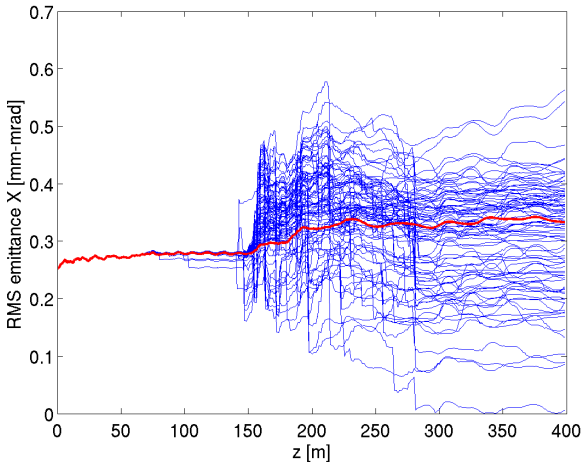


Figure: RMS Emittance Y

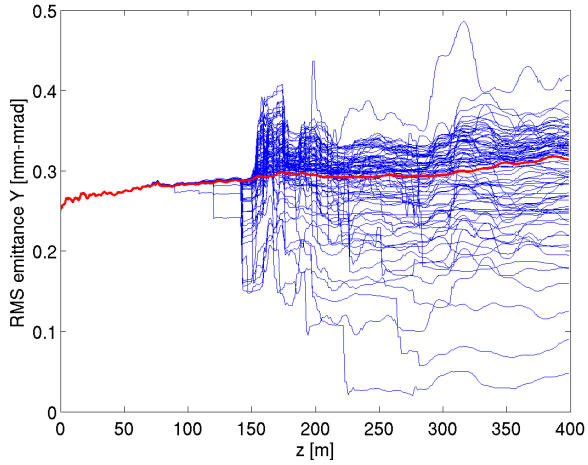


Figure: RMS Emittance Z

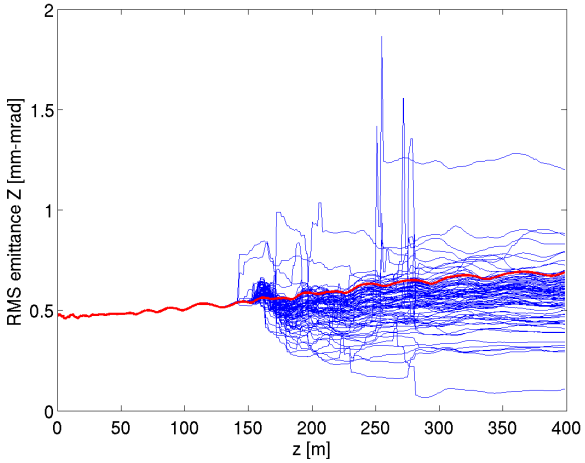
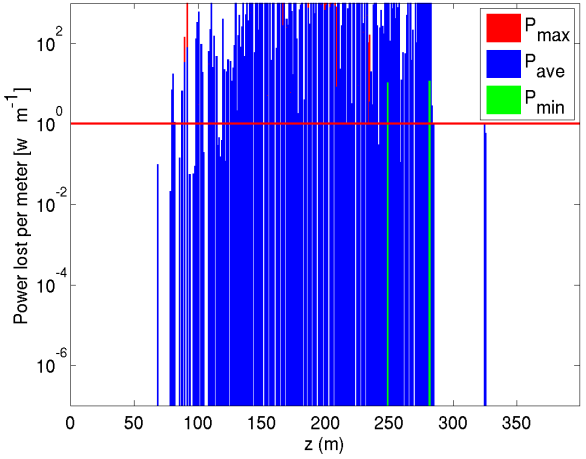


Figure: Losses [W·m^{-1}]



(30) Quads $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

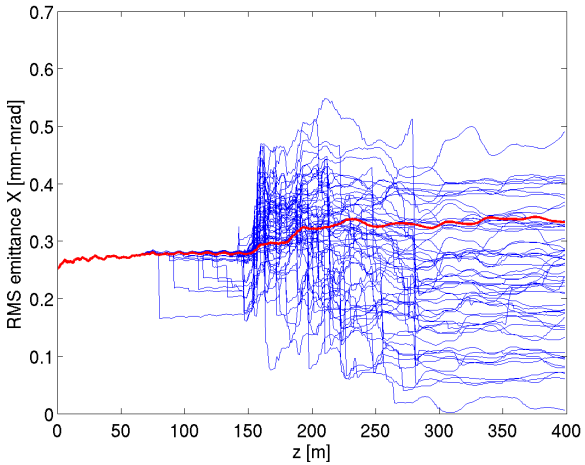


Figure: RMS Emittance Y

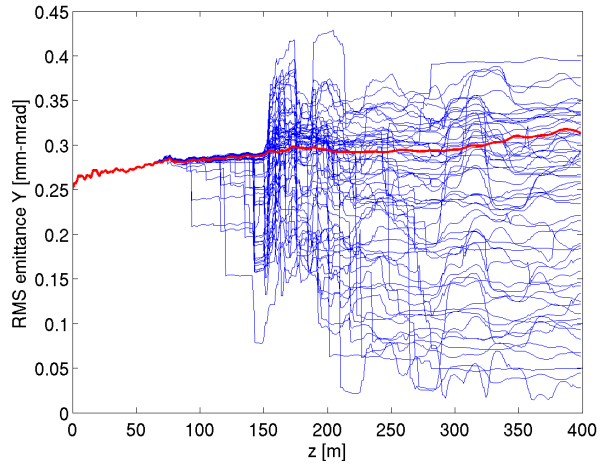


Figure: RMS Emittance Z

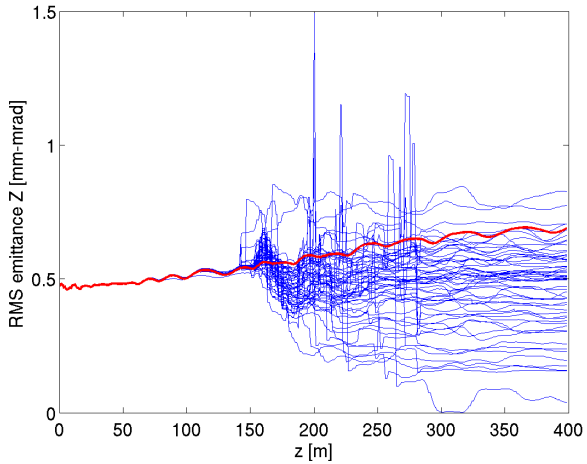
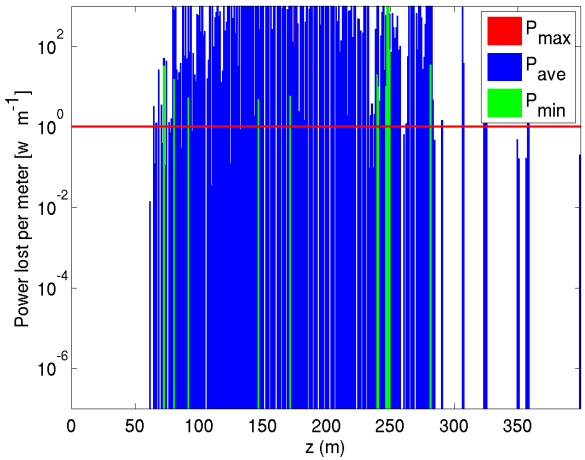


Figure: Losses [W·m^{-1}]



(31) Quads $\phi_z = 1$ mrad

Figure: RMS Emittance X

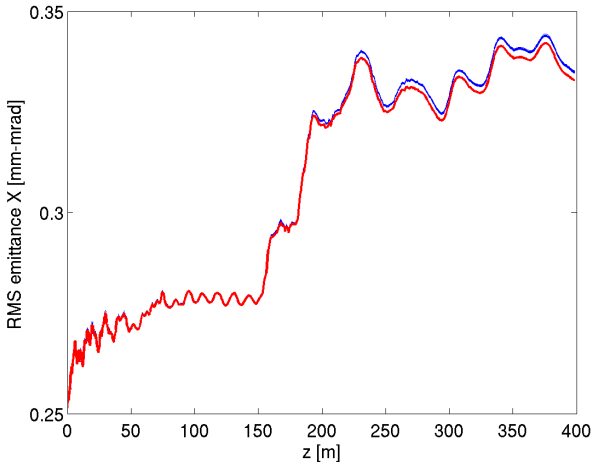


Figure: RMS Emittance Y

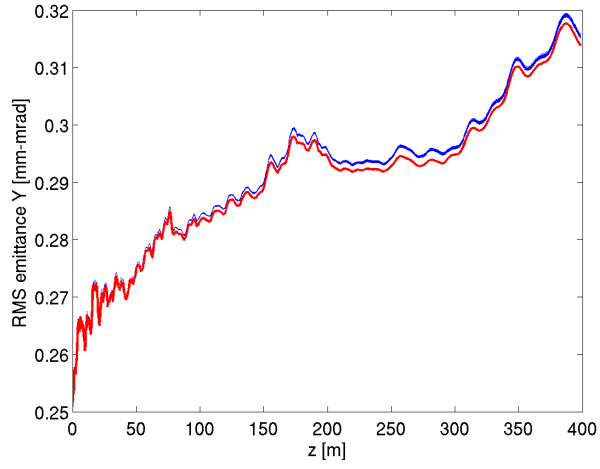


Figure: RMS Emittance Z

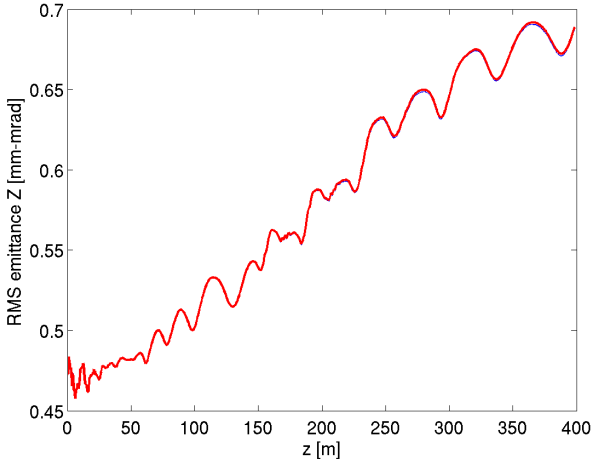
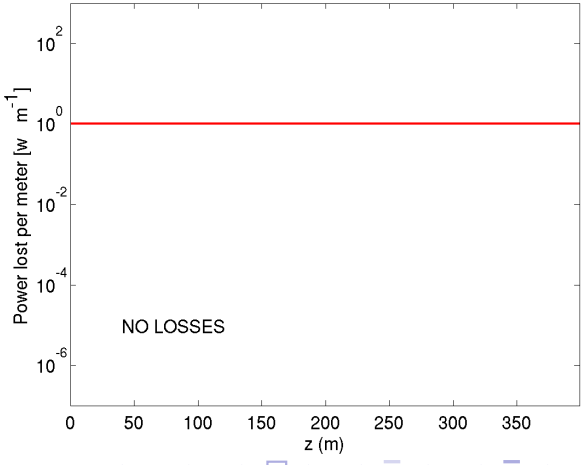


Figure: Losses [W·m^{-1}]



(32) Quads $\phi_z = 2$ mrad

Figure: RMS Emittance X

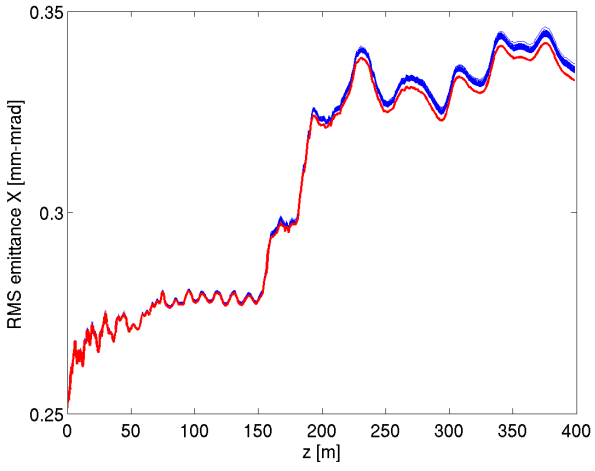


Figure: RMS Emittance Y

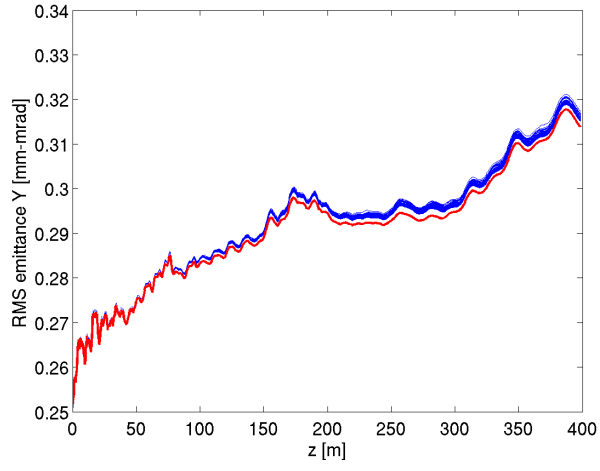


Figure: RMS Emittance Z

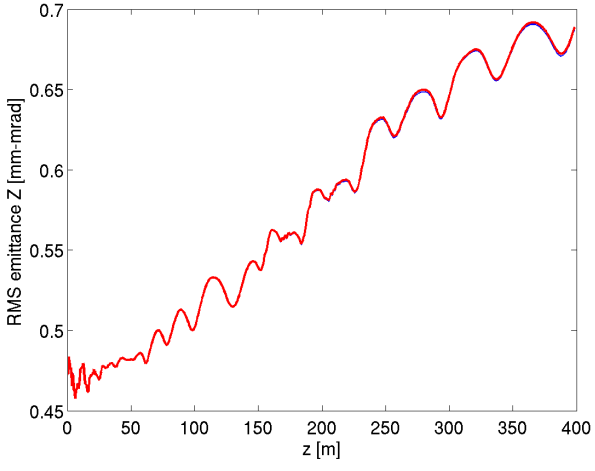
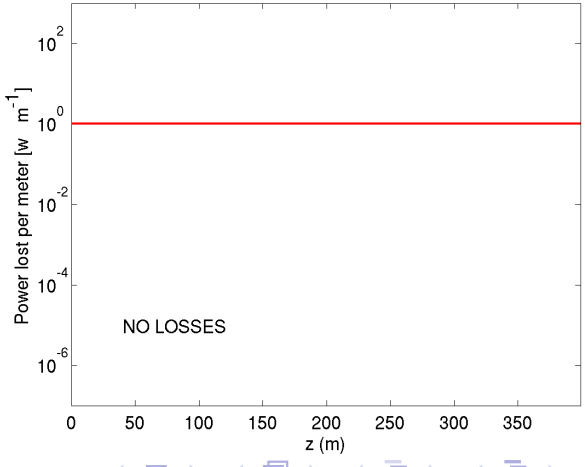


Figure: Losses [W·m^{-1}]



(33) Quads $\phi_z = 5$ mrad

Figure: RMS Emittance X

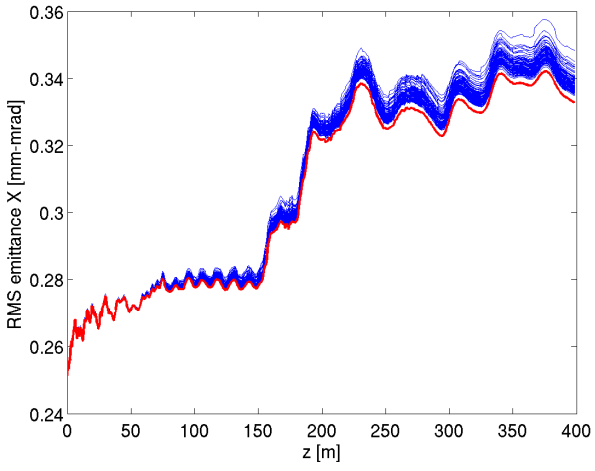


Figure: RMS Emittance Y

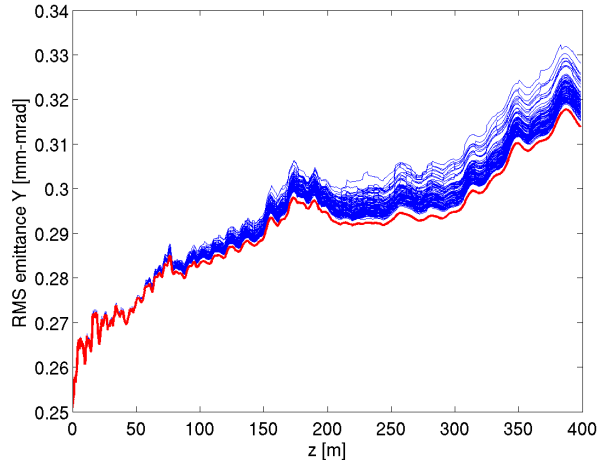


Figure: RMS Emittance Z

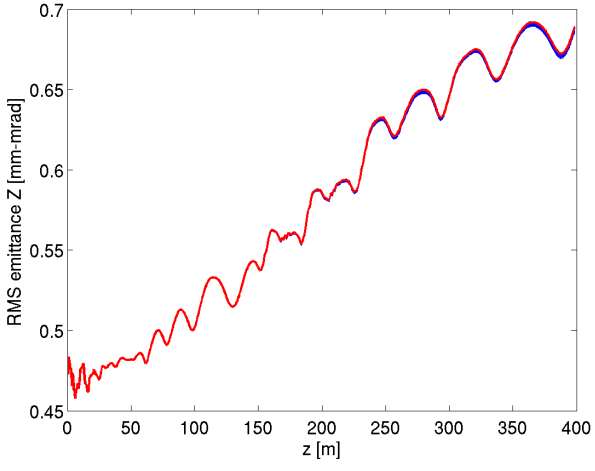
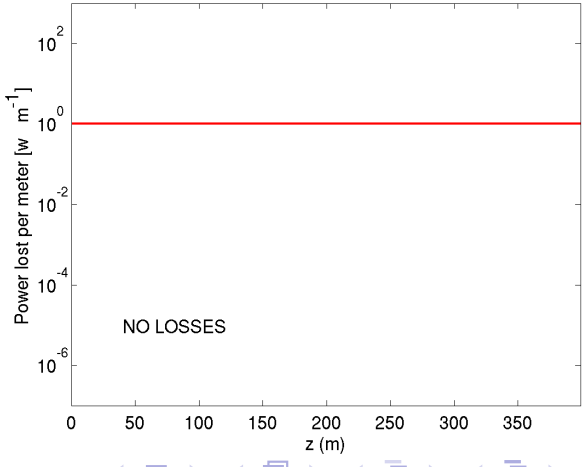


Figure: Losses [W·m^{-1}]



(34) Quads $\phi_z = 7$ mrad

Figure: RMS Emittance X

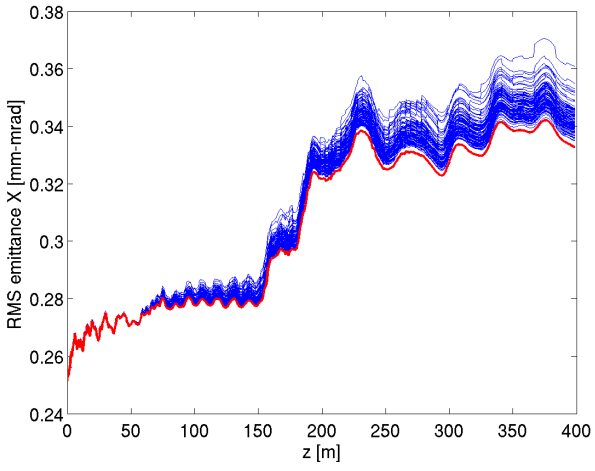


Figure: RMS Emittance Y

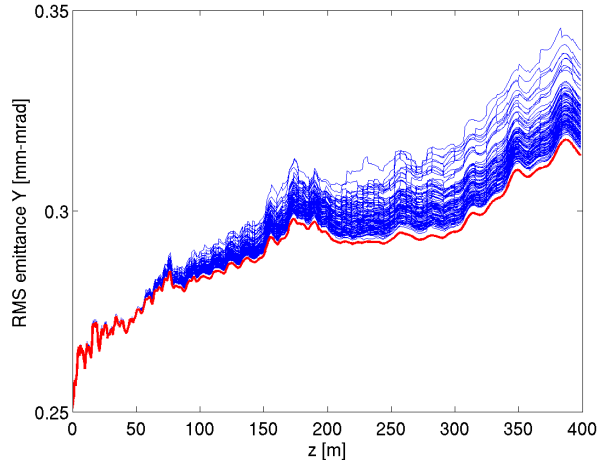


Figure: RMS Emittance Z

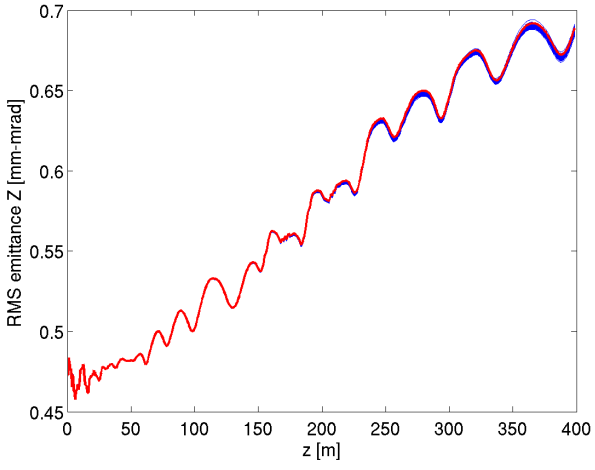
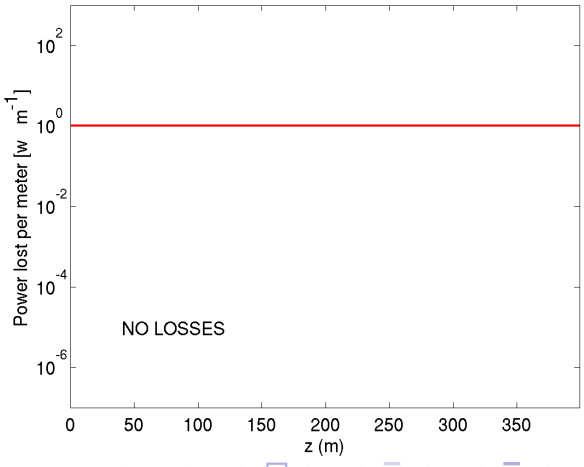


Figure: Losses [W·m^{-1}]



(35) Quads $\phi_z = 10$ mrad

Figure: RMS Emittance X

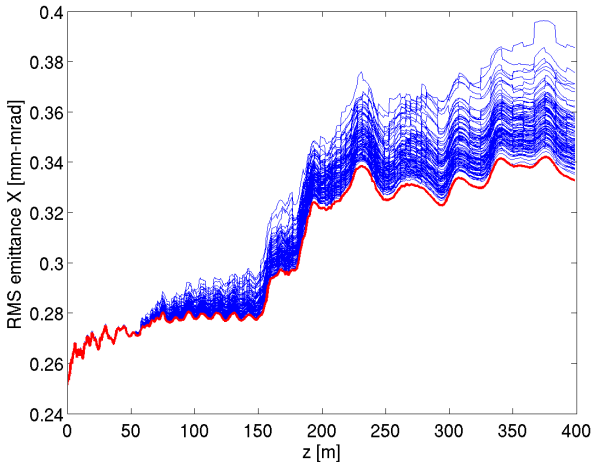


Figure: RMS Emittance Y

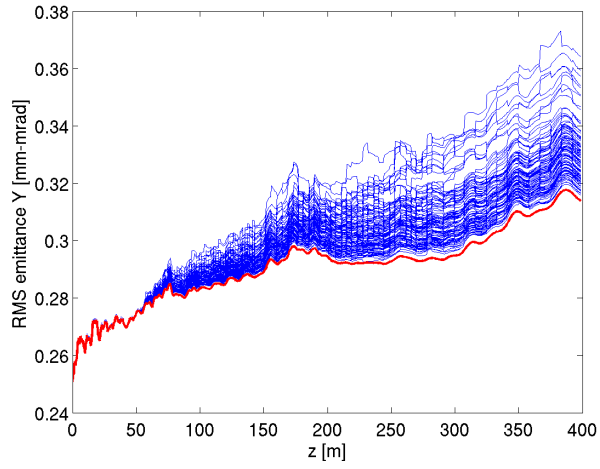


Figure: RMS Emittance Z

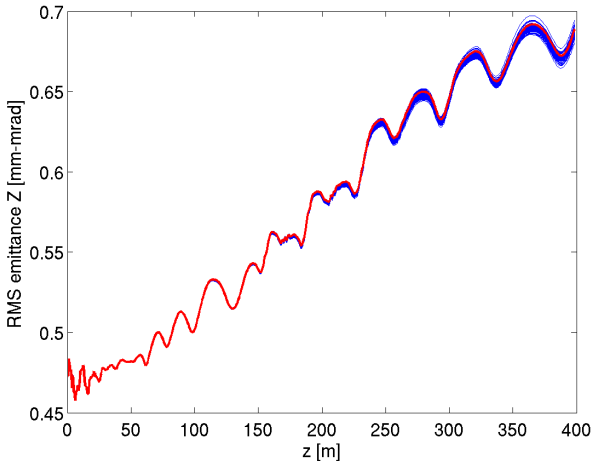
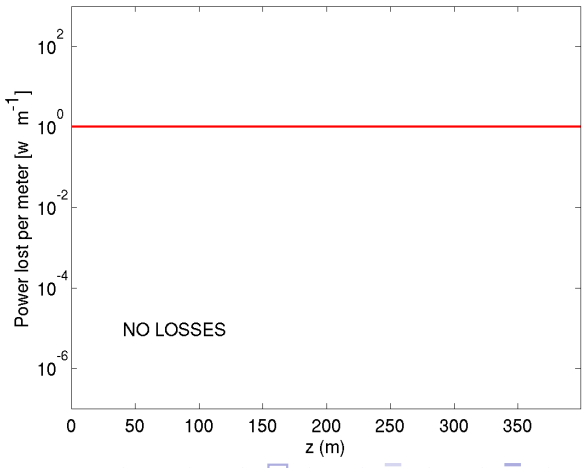


Figure: Losses [W·m^{-1}]



(36) Quads Field $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

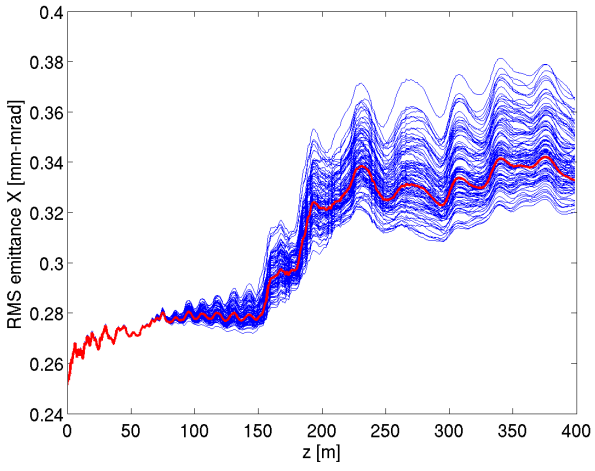


Figure: RMS Emittance Y

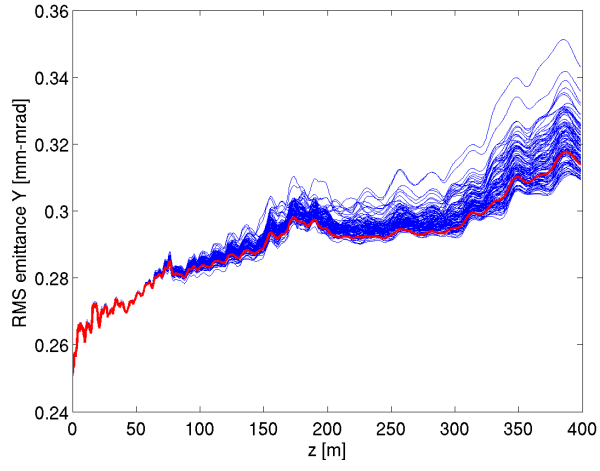


Figure: RMS Emittance Z

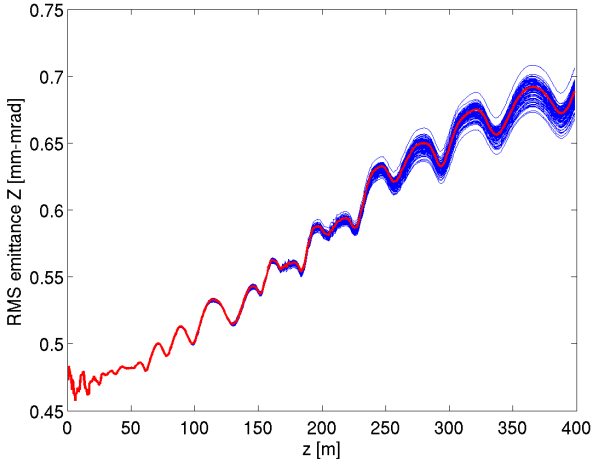
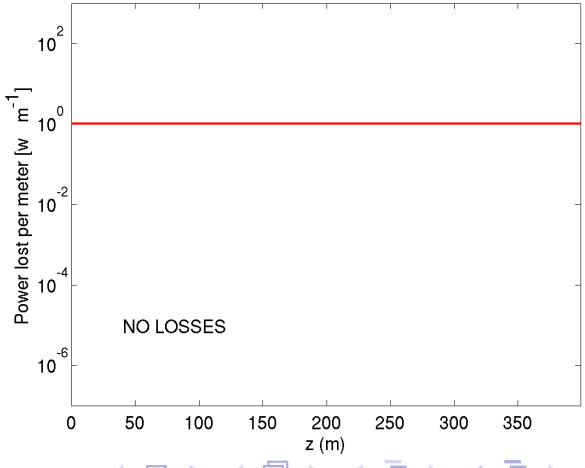


Figure: Losses [W·m^{-1}]



(37) Quads Field $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

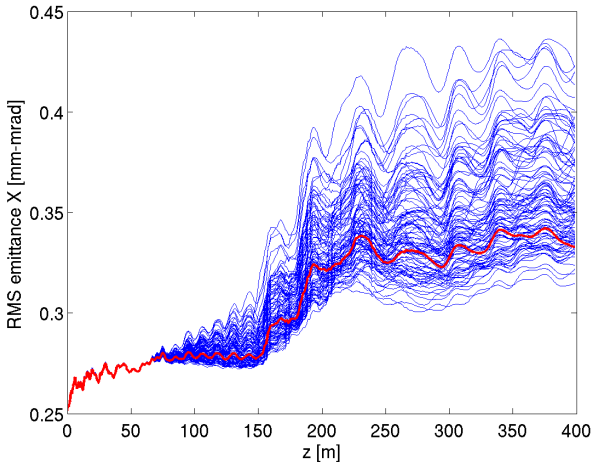


Figure: RMS Emittance Y

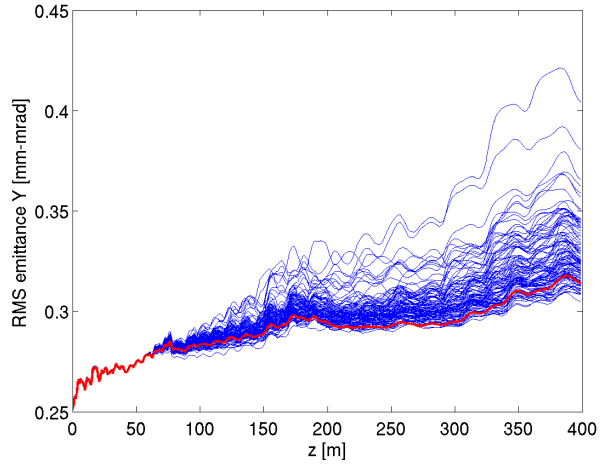


Figure: RMS Emittance Z

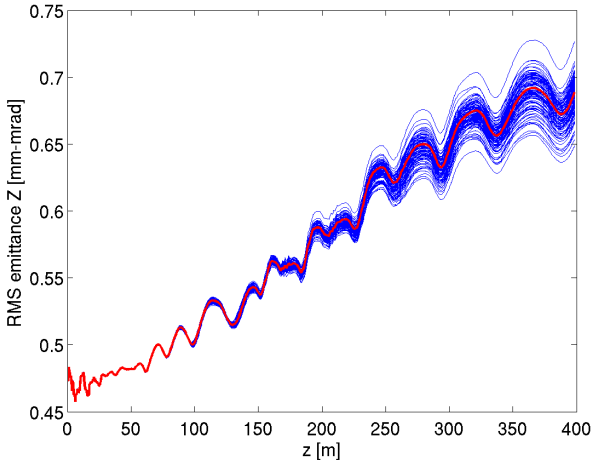
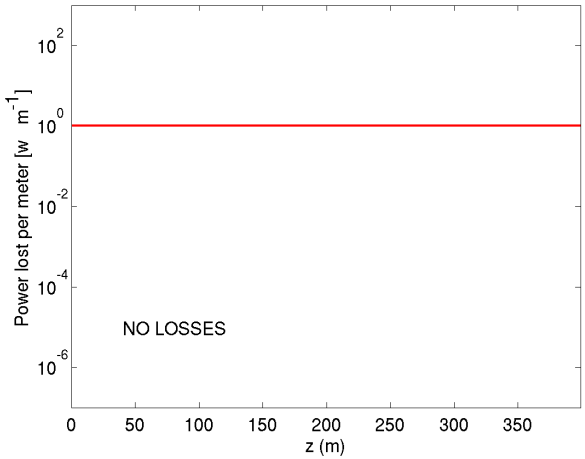


Figure: Losses [W·m^{-1}]



(38) Quads Field $\delta F_{dynamic} = 1.5\ \%$

Figure: RMS Emittance X

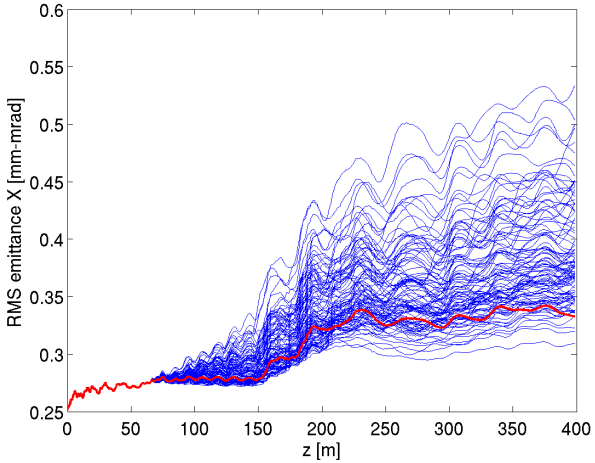


Figure: RMS Emittance Y

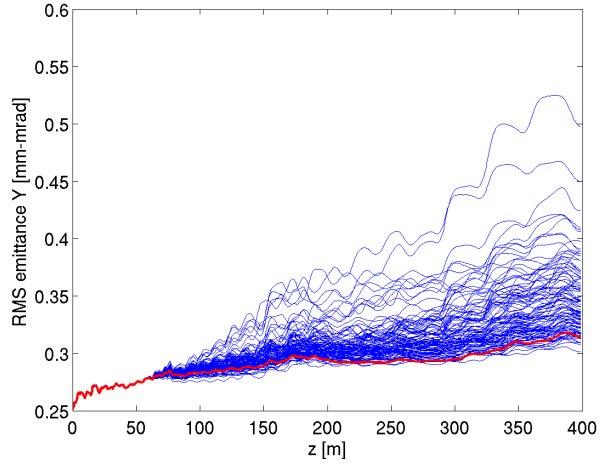


Figure: RMS Emittance Z

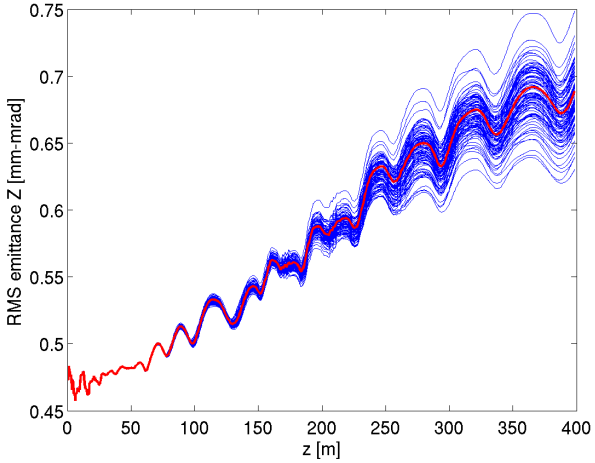
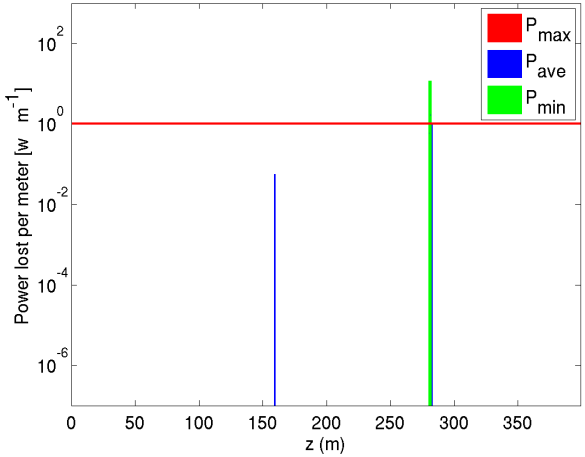


Figure: Losses [W·m^{-1}]



(39) Quads Field $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

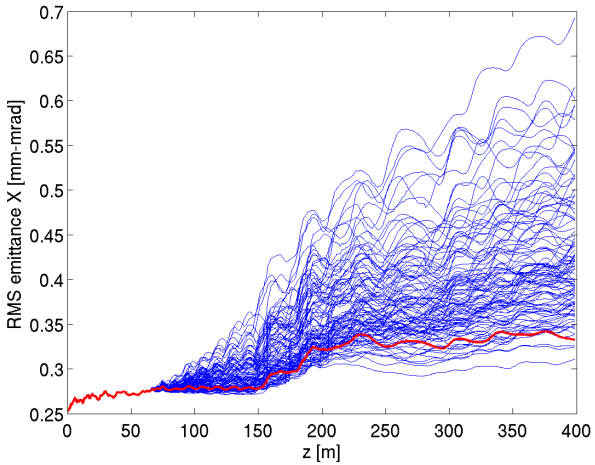


Figure: RMS Emittance Y

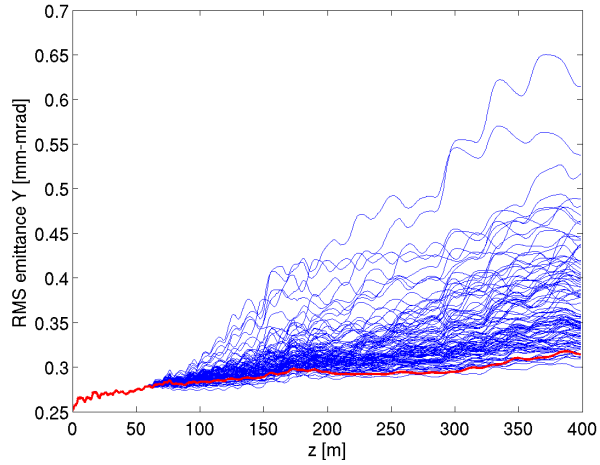


Figure: RMS Emittance Z

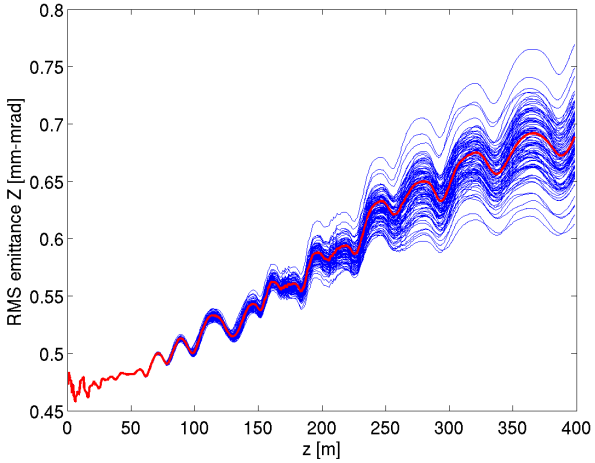
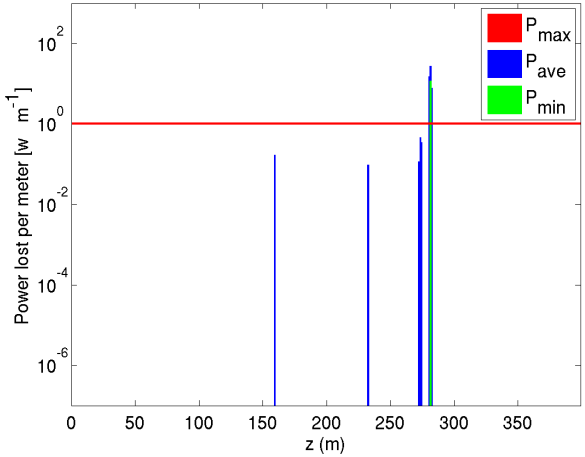


Figure: Losses [W·m^{-1}]



(40) Quads Field $\delta F_{dynamic} = 2.5$ %

Figure: RMS Emittance X

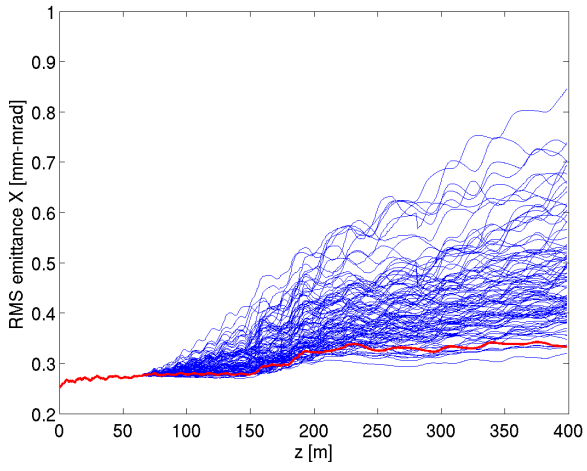


Figure: RMS Emittance Y

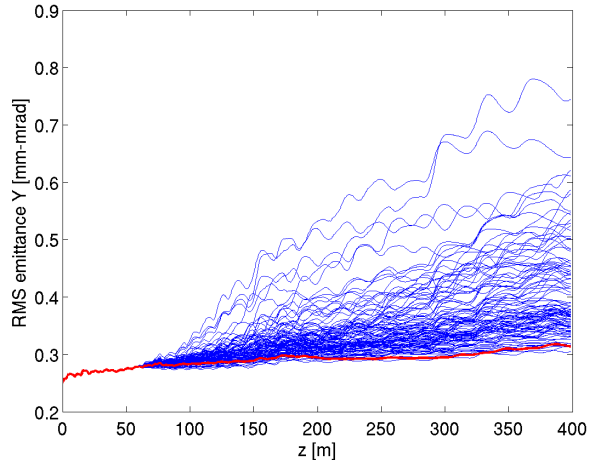


Figure: RMS Emittance Z

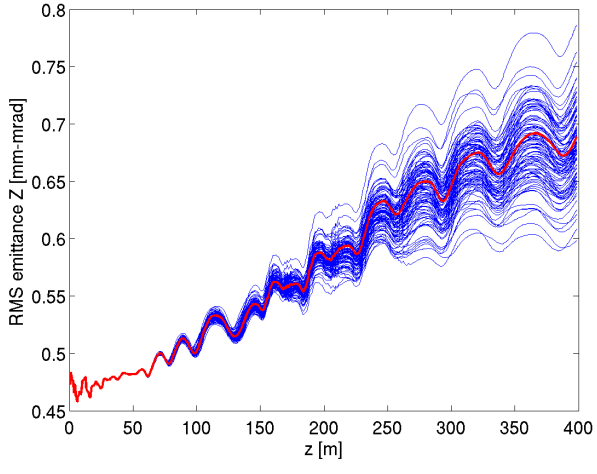
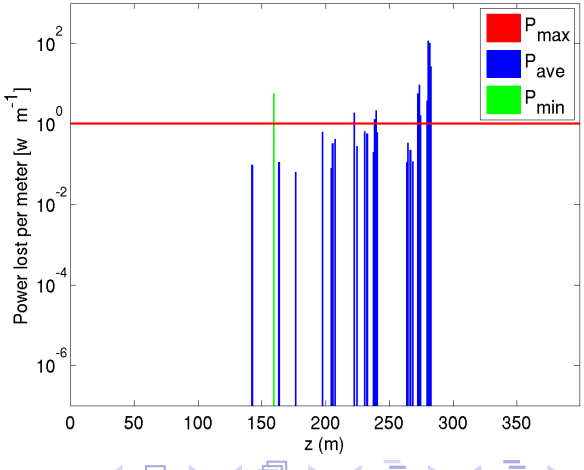


Figure: Losses [W·m^{-1}]



(41) Quads Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

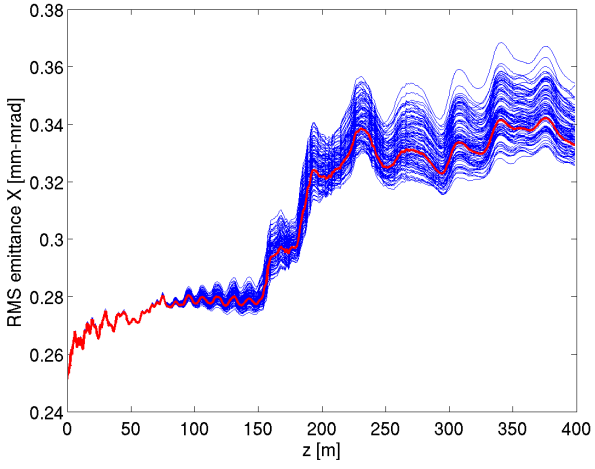


Figure: RMS Emittance Y

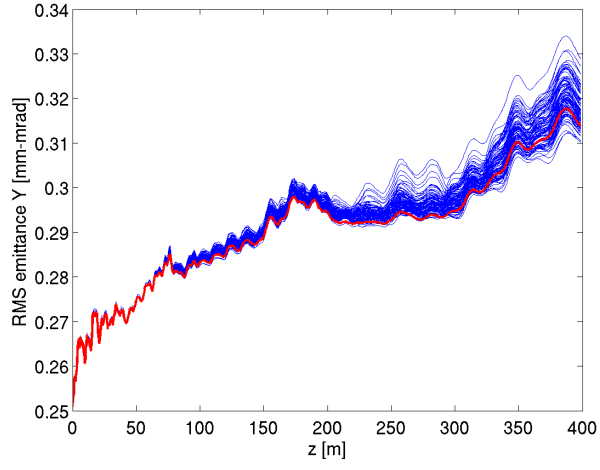


Figure: RMS Emittance Z

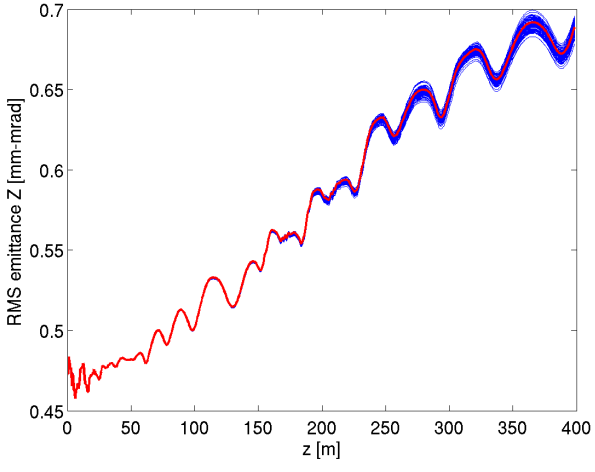
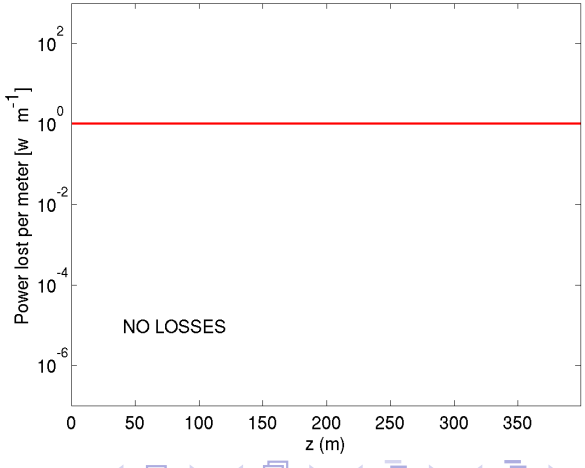


Figure: Losses [W·m^{-1}]



(42) Quads Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

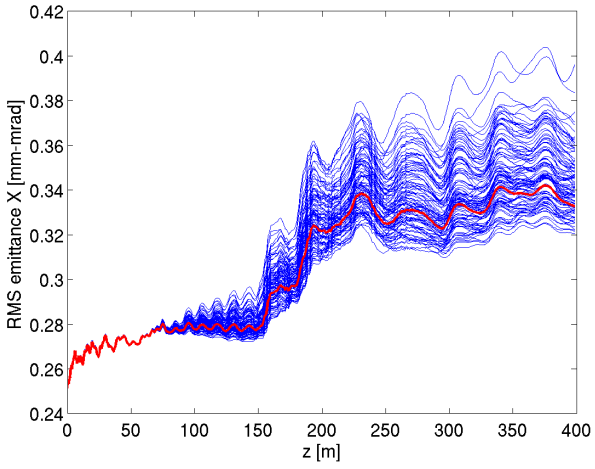


Figure: RMS Emittance Y

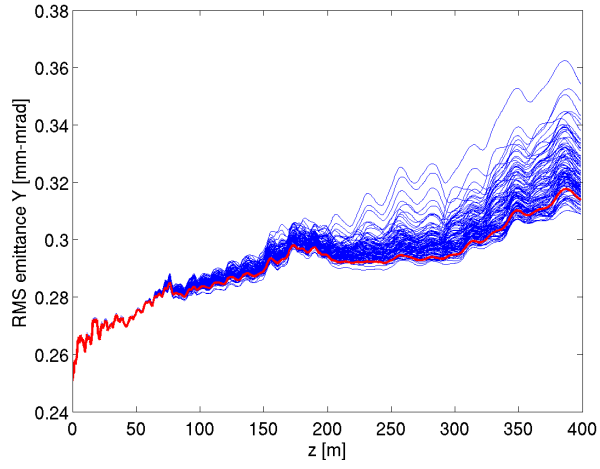


Figure: RMS Emittance Z

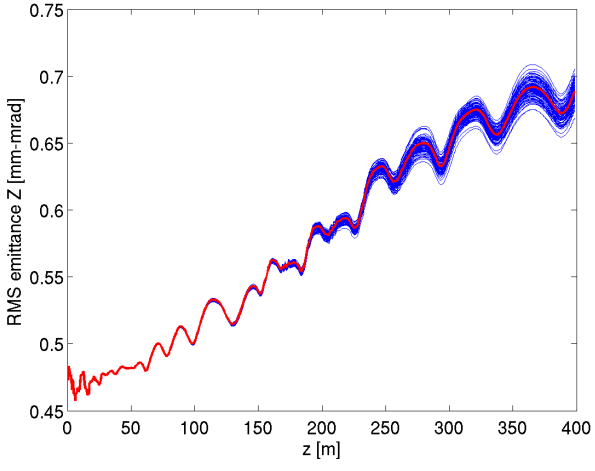
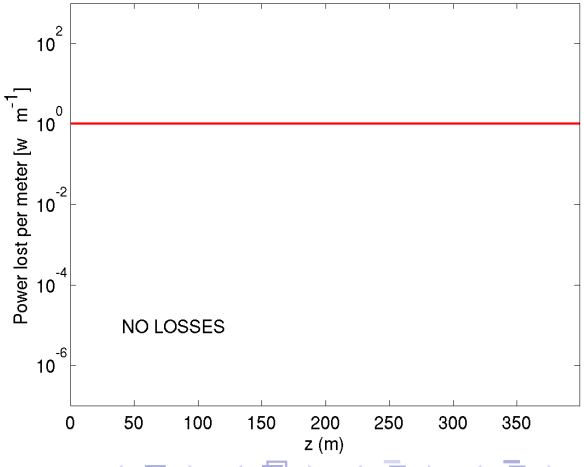


Figure: Losses [W·m^{-1}]



(43) Quads Field $\delta F_{static} = 1.5\ \%$

Figure: RMS Emittance X

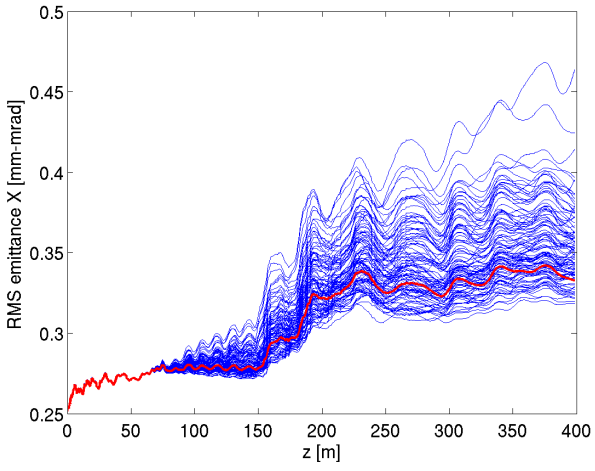


Figure: RMS Emittance Y

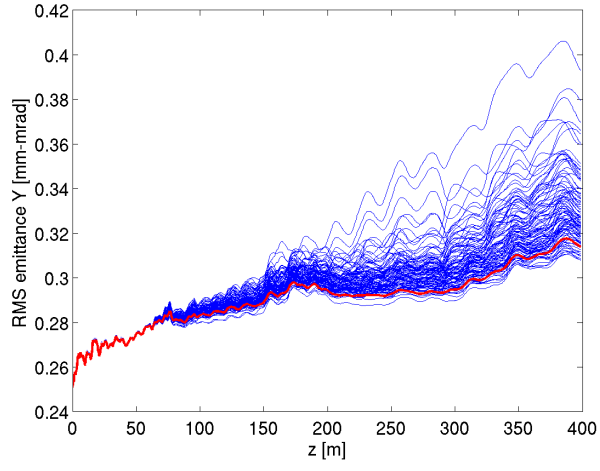


Figure: RMS Emittance Z

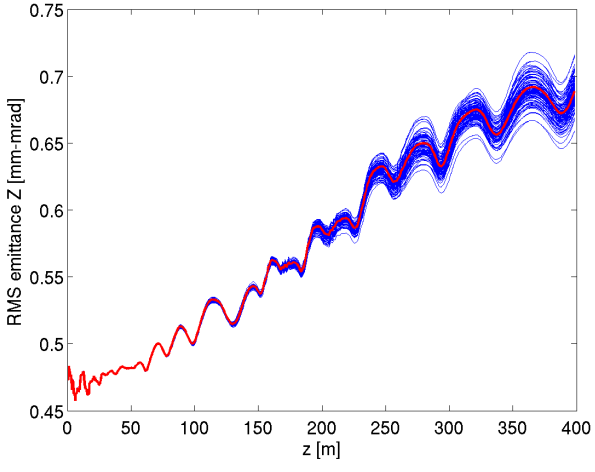
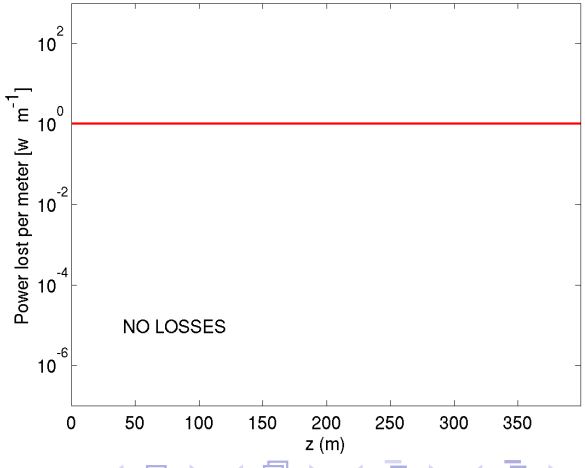


Figure: Losses [W·m^{-1}]



(44) Quads Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

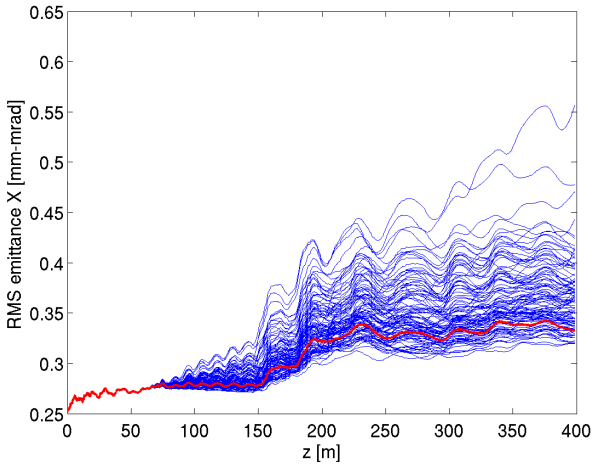


Figure: RMS Emittance Y

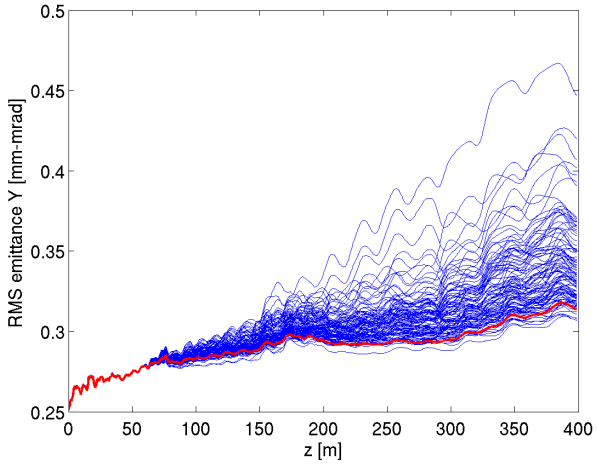


Figure: RMS Emittance Z

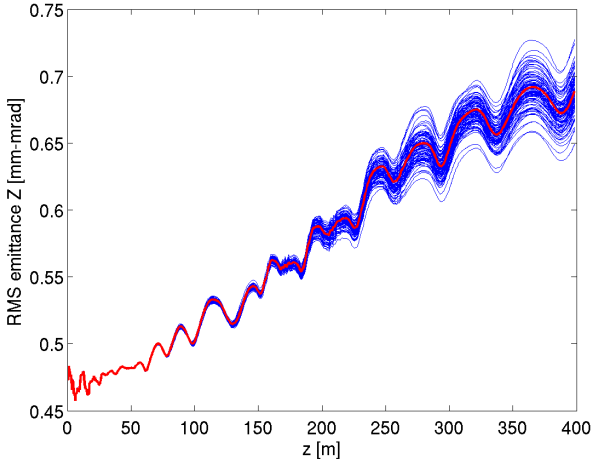
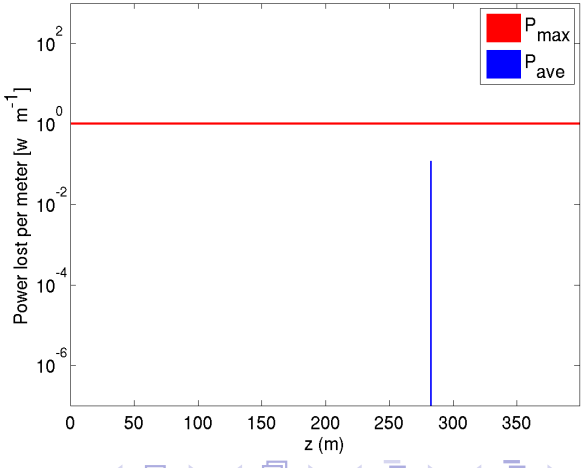


Figure: Losses [W·m^{-1}]



(45) Quads Field $\delta F_{static} = 2.5\ \%$

Figure: RMS Emittance X

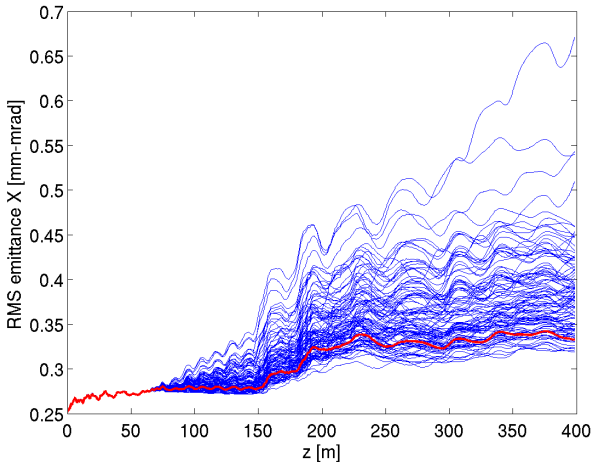


Figure: RMS Emittance Y

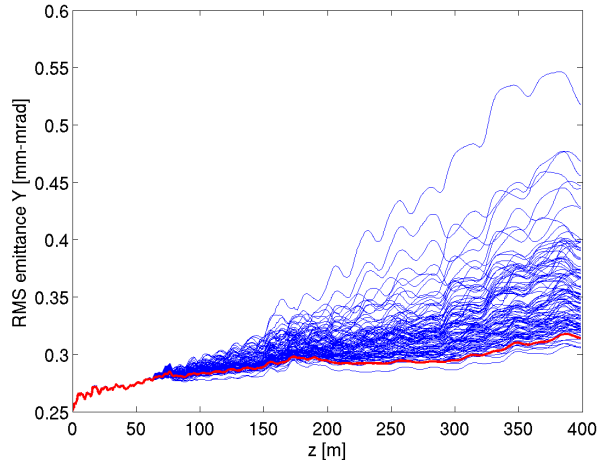


Figure: RMS Emittance Z

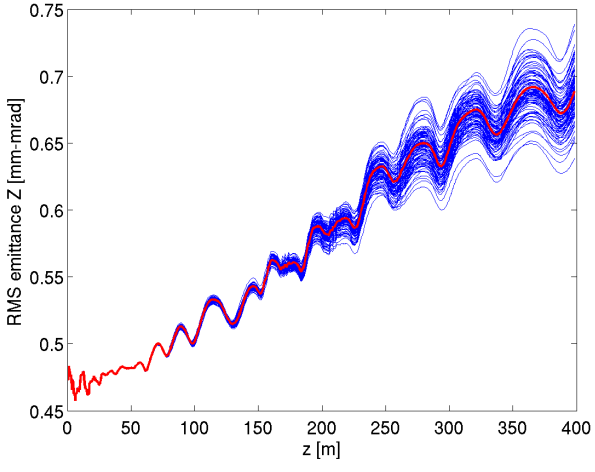
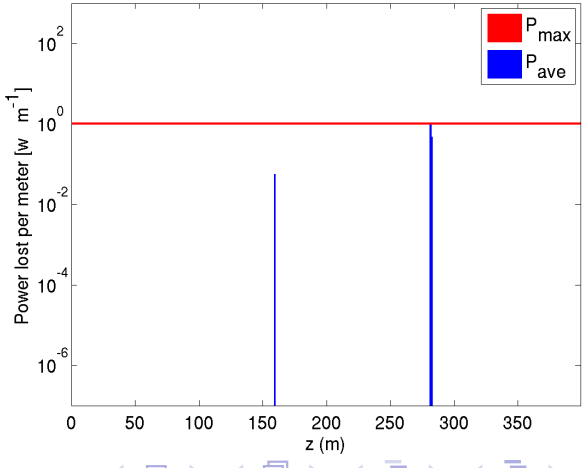


Figure: Losses [W·m^{-1}]



(46) Cav. $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

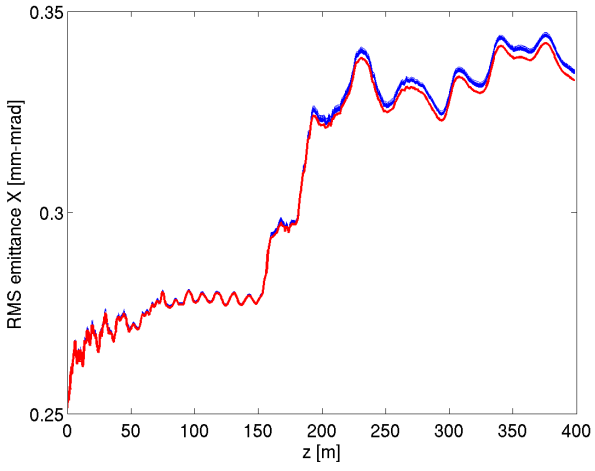


Figure: RMS Emittance Y

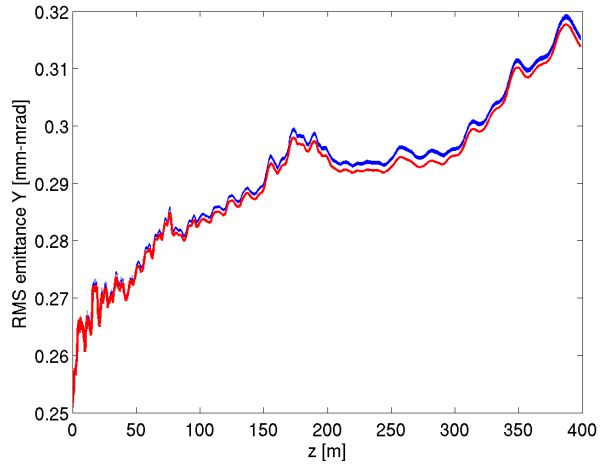


Figure: RMS Emittance Z

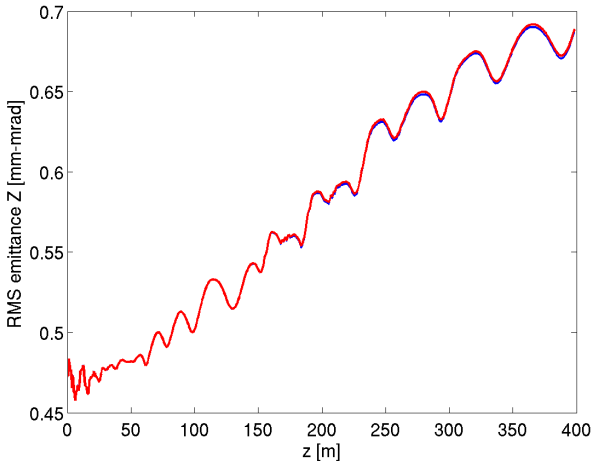
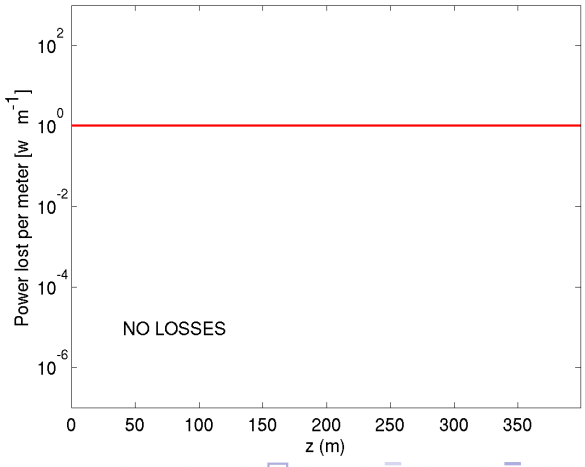


Figure: Losses [W·m^{-1}]



(47) Cav. $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

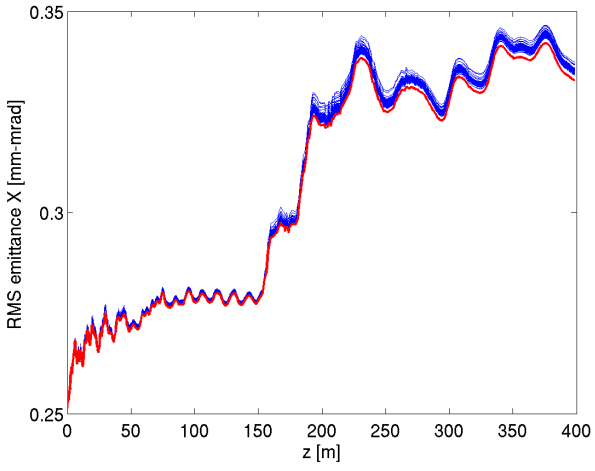


Figure: RMS Emittance Y

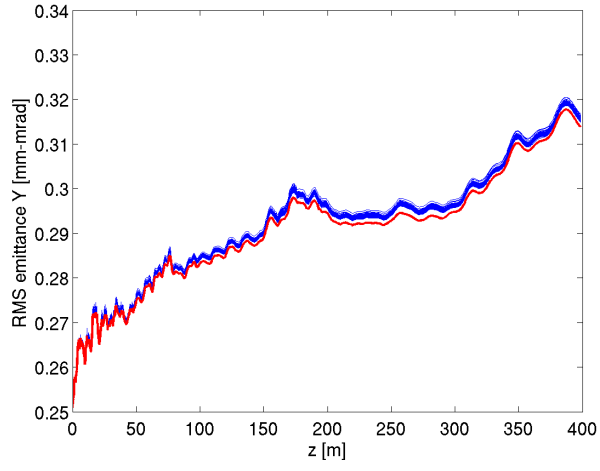


Figure: RMS Emittance z

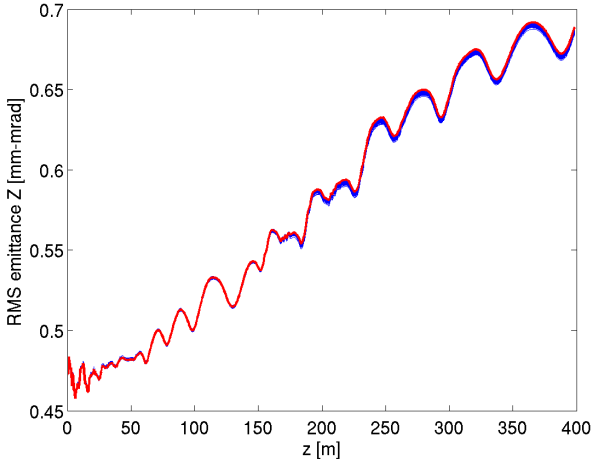
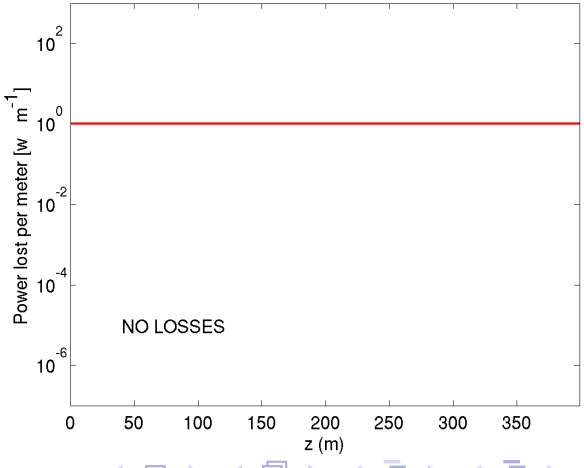


Figure: Losses [W·m^{-1}]



(48) Cav. $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

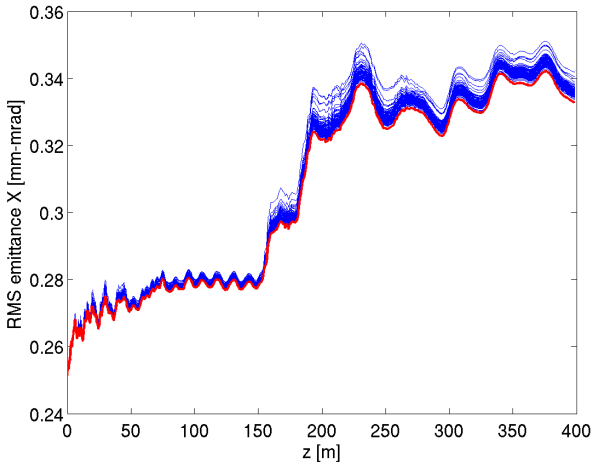


Figure: RMS Emittance Y

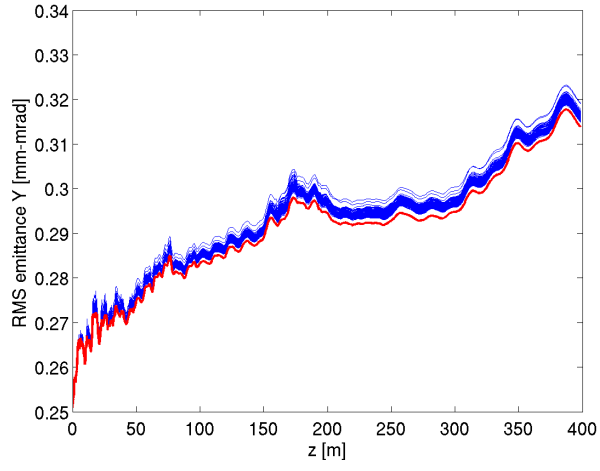


Figure: RMS Emittance Z

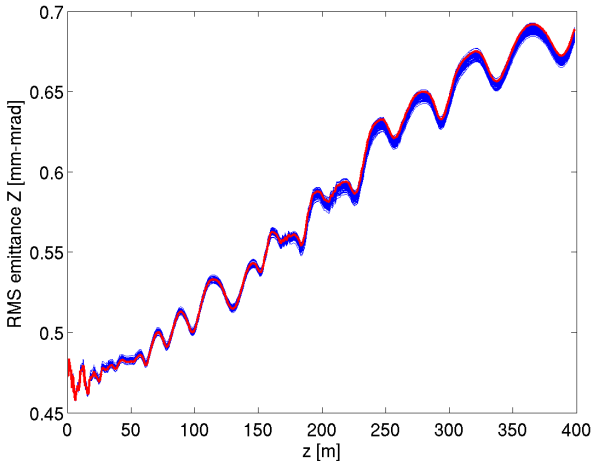
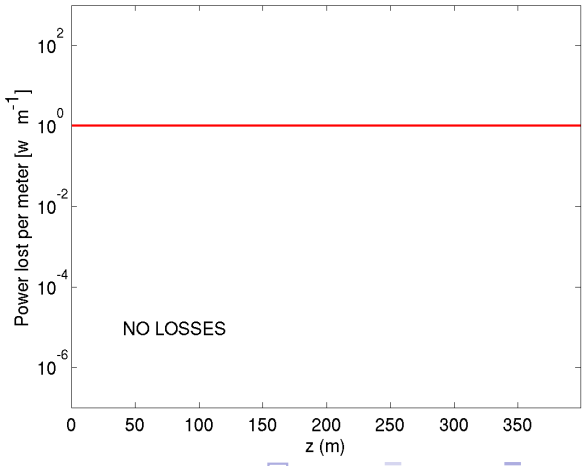


Figure: Losses [W·m^{-1}]



(49) Cav. $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

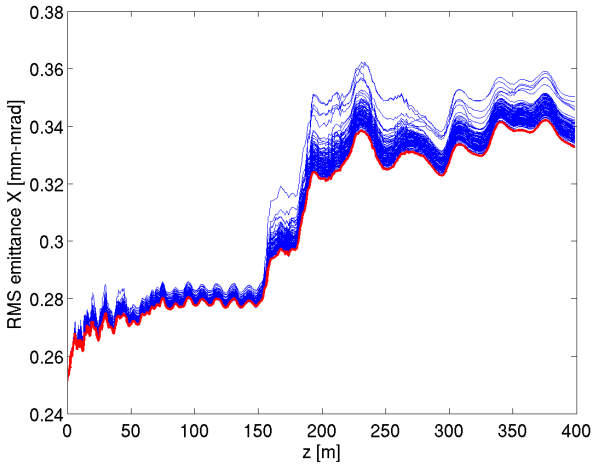


Figure: RMS Emittance Y

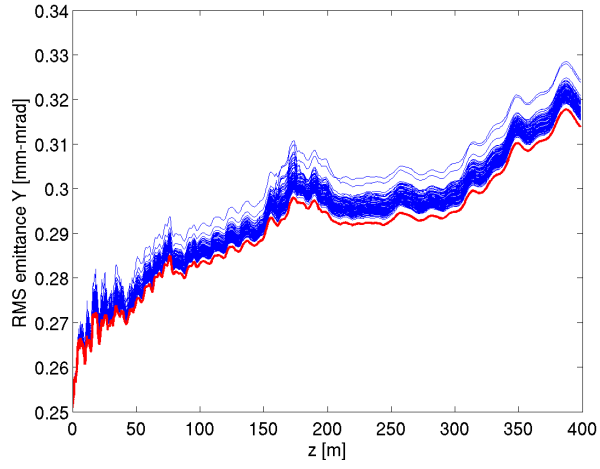


Figure: RMS Emittance Z

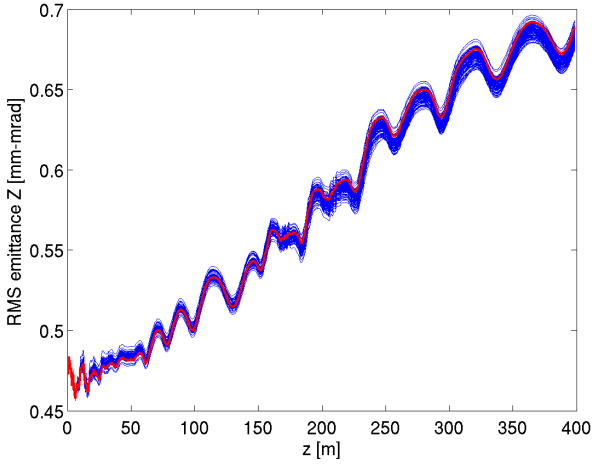
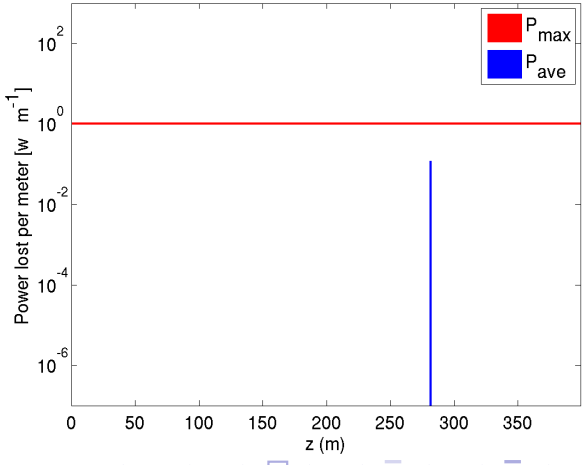


Figure: Losses [W·m^{-1}]



(50) Cav. $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

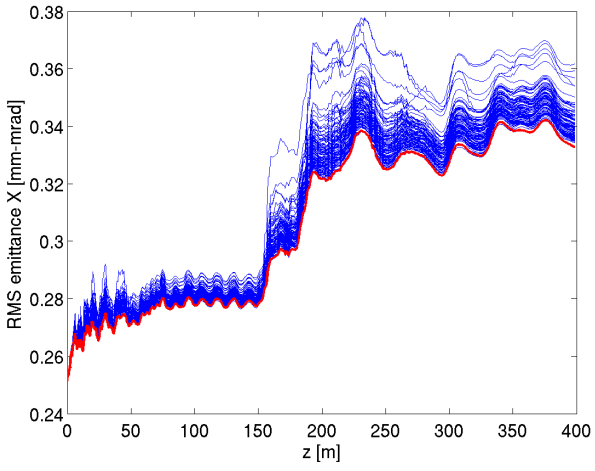


Figure: RMS Emittance Y

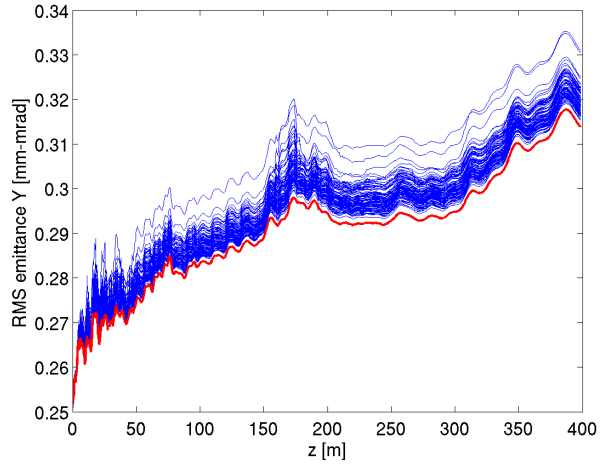


Figure: RMS Emittance Z

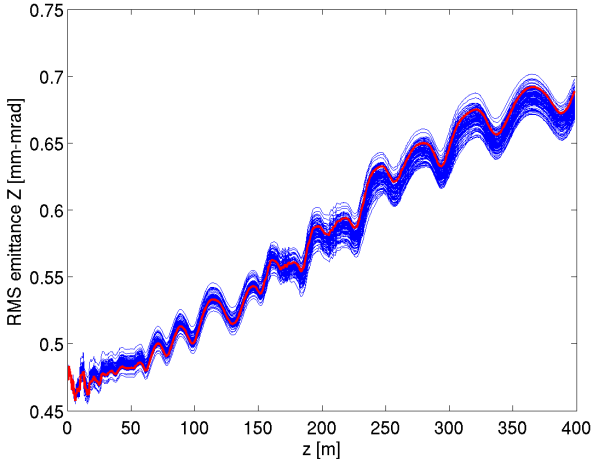
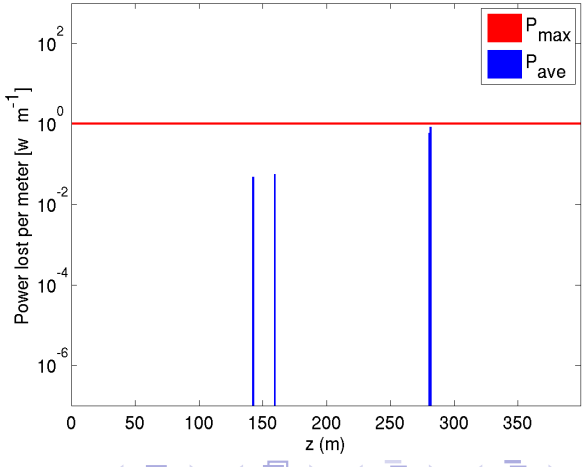


Figure: Losses [W·m^{-1}]



(51) Cav. $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

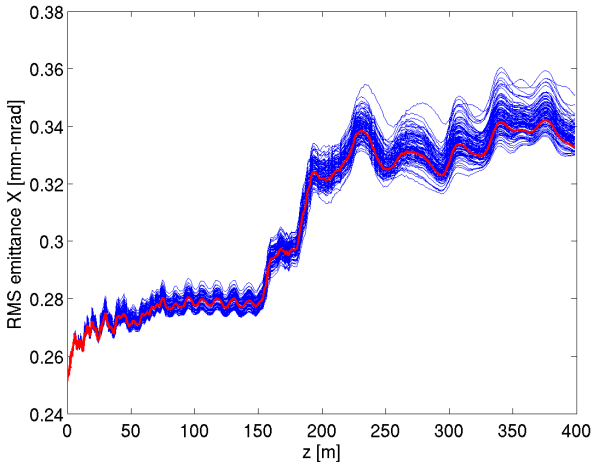


Figure: RMS Emittance Y

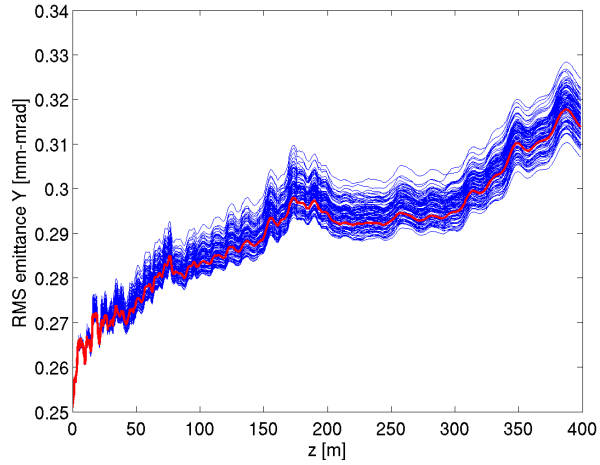


Figure: RMS Emittance Z

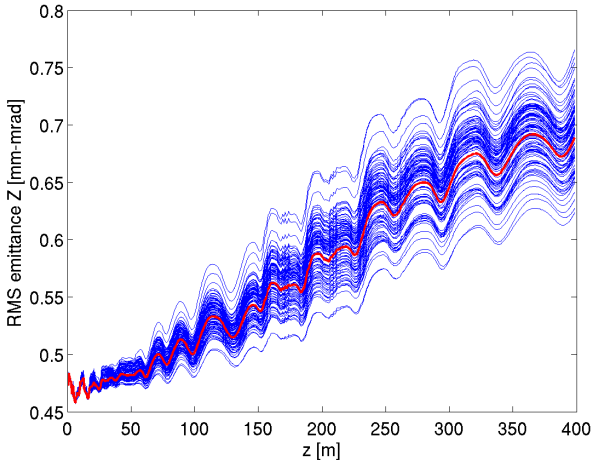
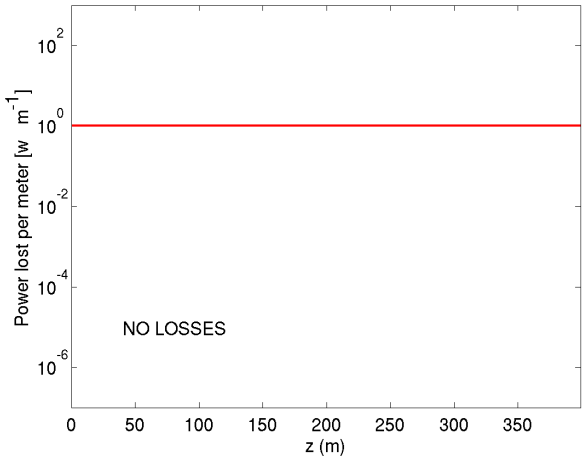


Figure: Losses [W·m^{-1}]



(52) Cav. $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

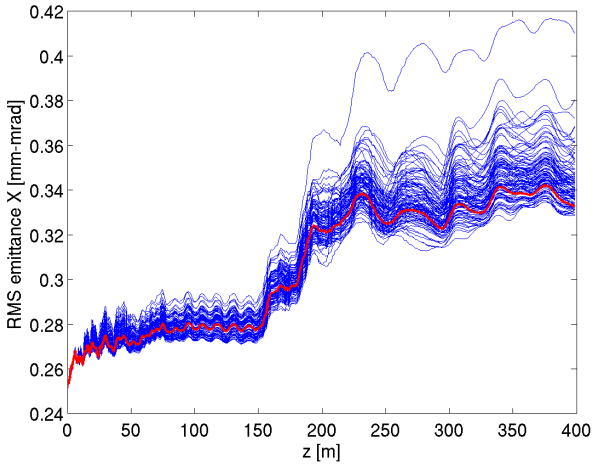


Figure: RMS Emittance Y

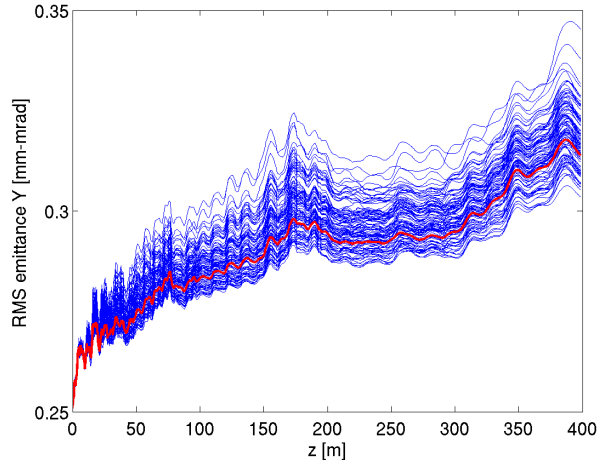


Figure: RMS Emittance Z

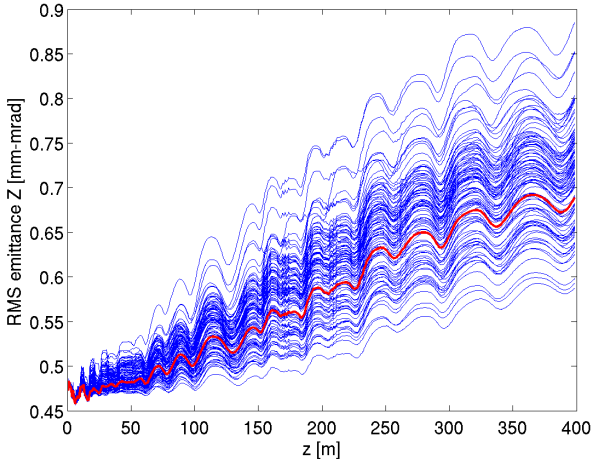
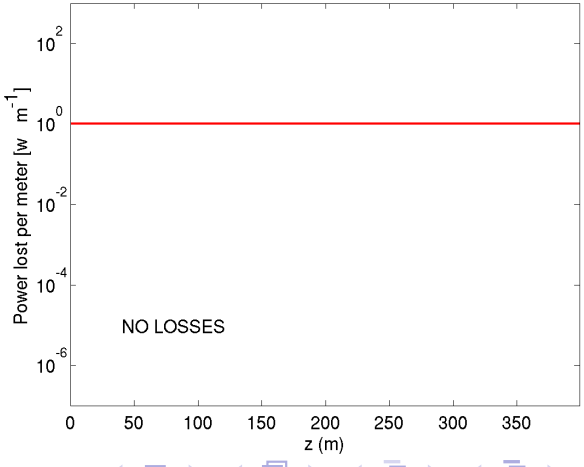


Figure: Losses [W·m^{-1}]



(53) Cav. $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

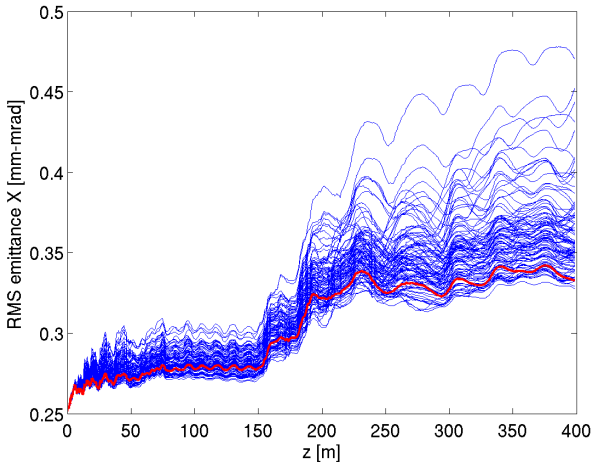


Figure: RMS Emittance Y

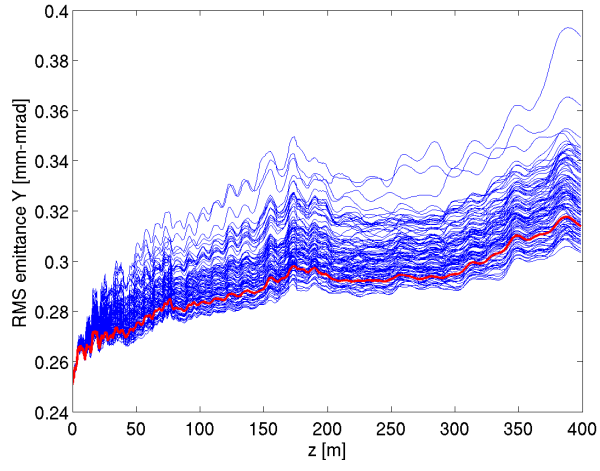


Figure: RMS Emittance Z

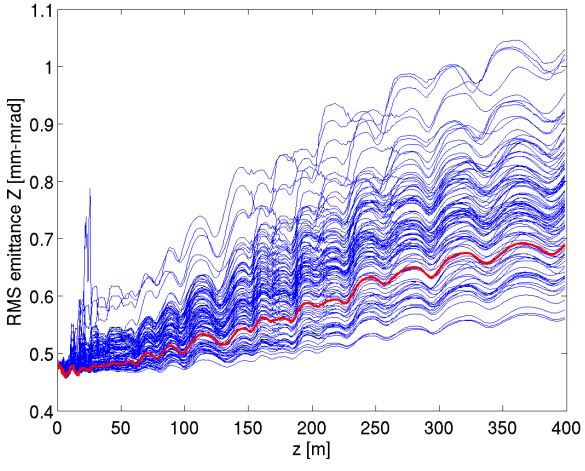
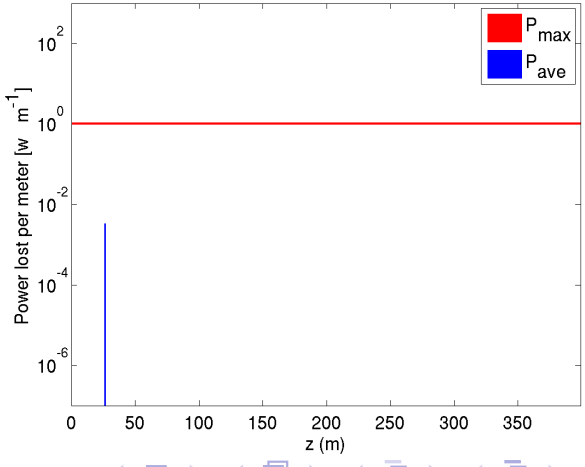


Figure: Losses [W·m^{-1}]



(54) Cav. $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

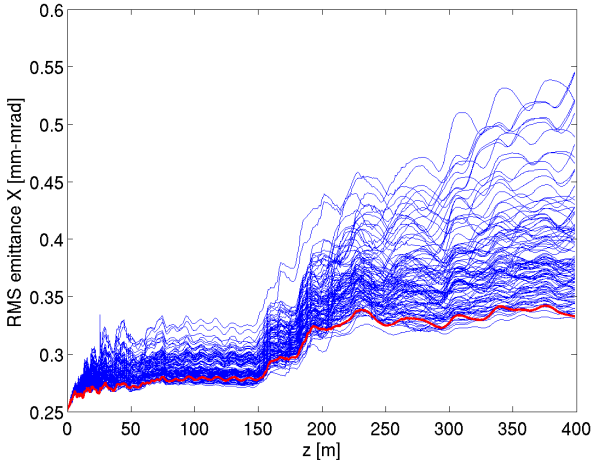


Figure: RMS Emittance Y

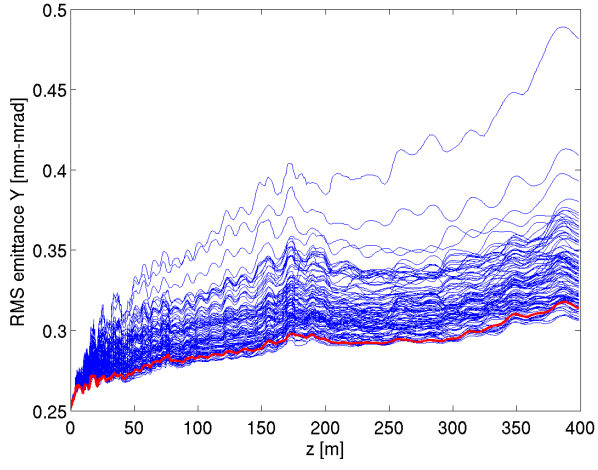


Figure: RMS Emittance Z

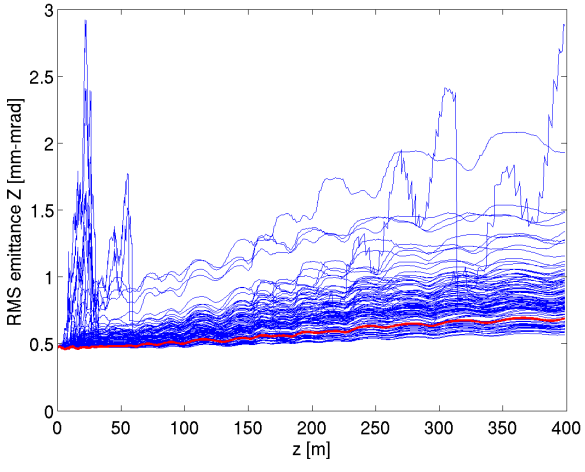
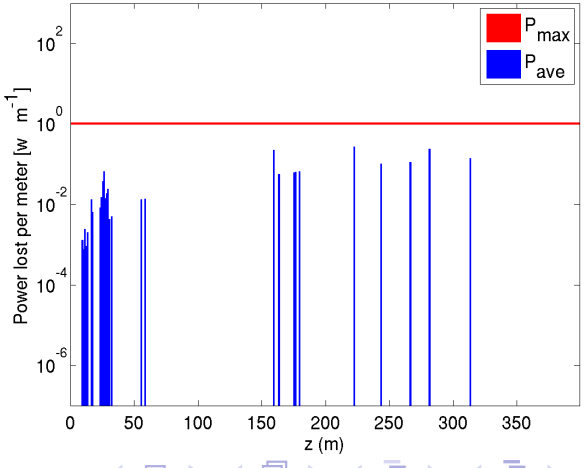


Figure: Losses [W·m^{-1}]



(55) Cav. $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

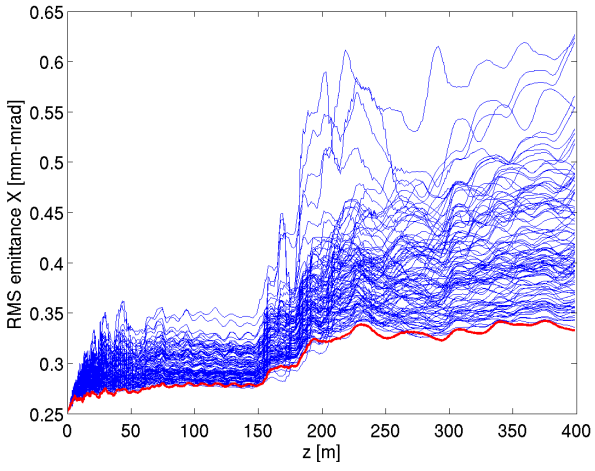


Figure: RMS Emittance Y

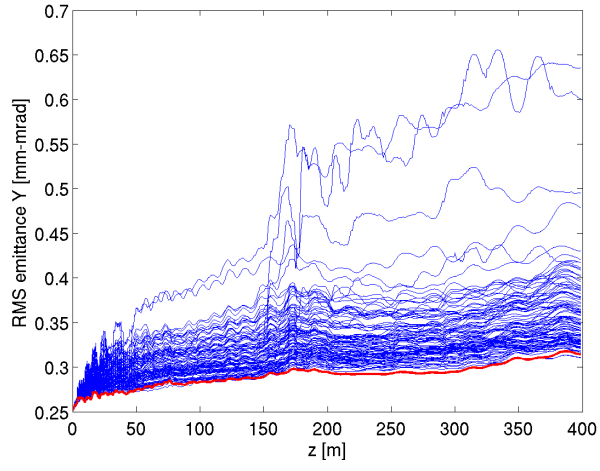


Figure: RMS Emittance Z

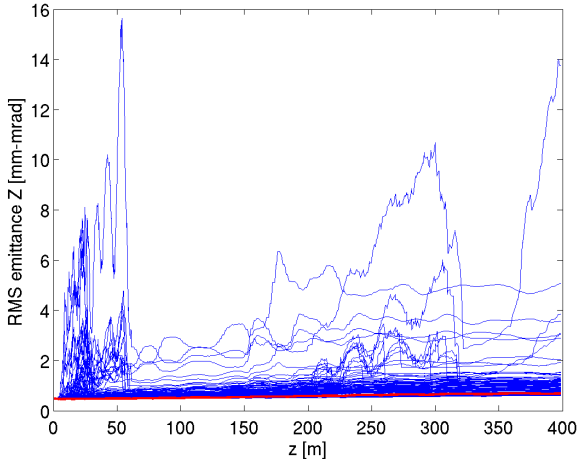
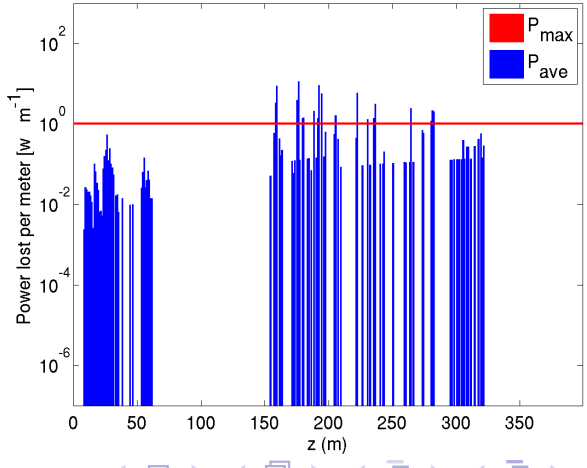


Figure: Losses [W·m^{-1}]



(56) Cavities $\phi_z = 1$ mrad

Figure: RMS Emittance X

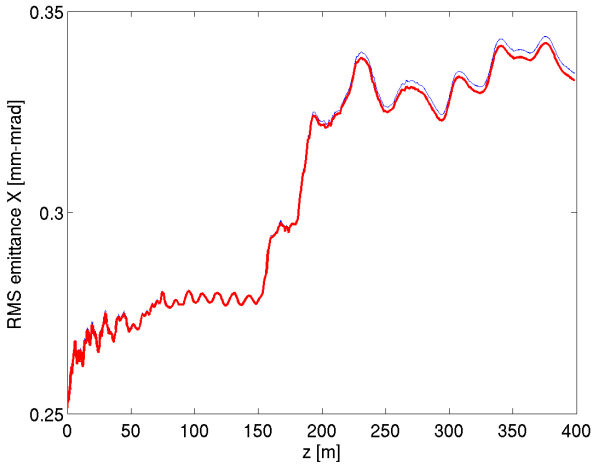


Figure: RMS Emittance Y

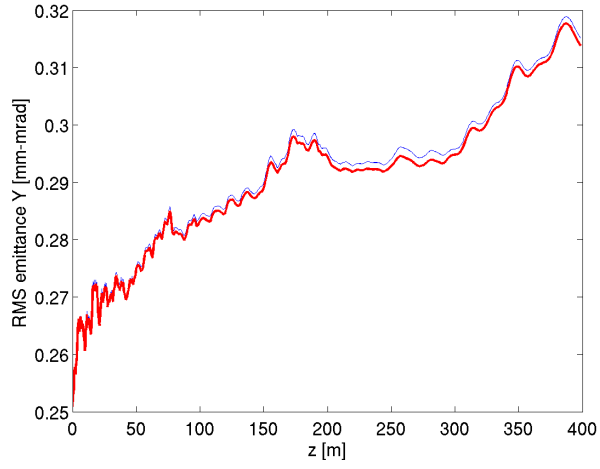


Figure: RMS Emittance Z

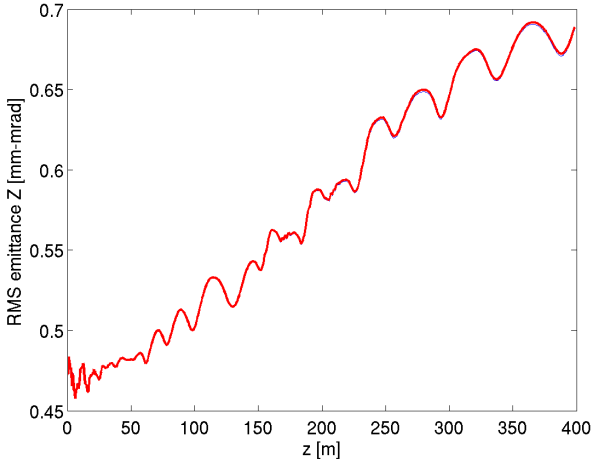
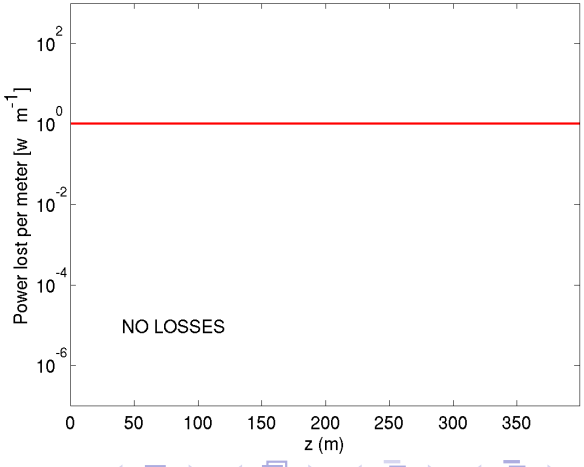


Figure: Losses [W·m^{-1}]



(57) Cavities $\phi_z = 2$ mrad

Figure: RMS Emittance X

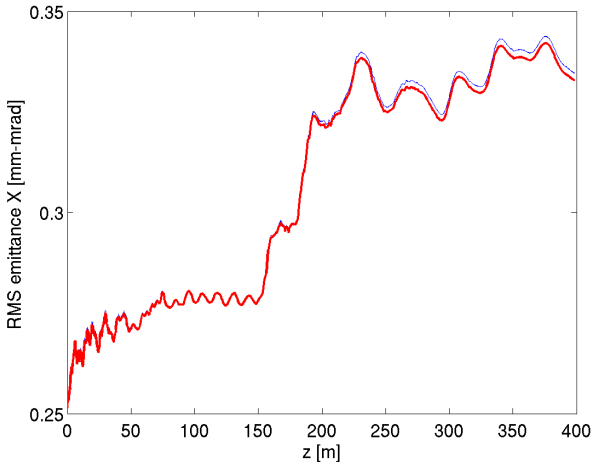


Figure: RMS Emittance Y

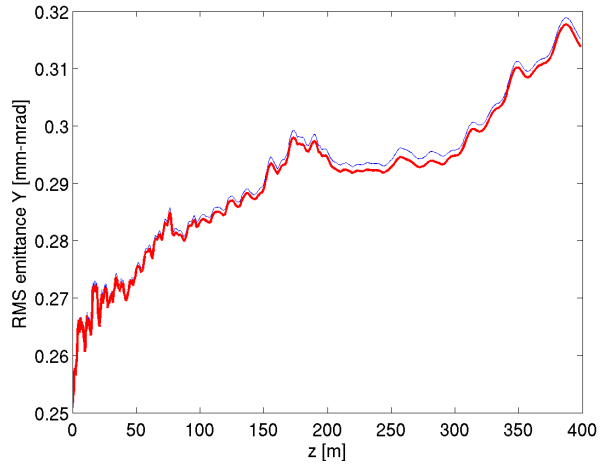


Figure: RMS Emittance Z

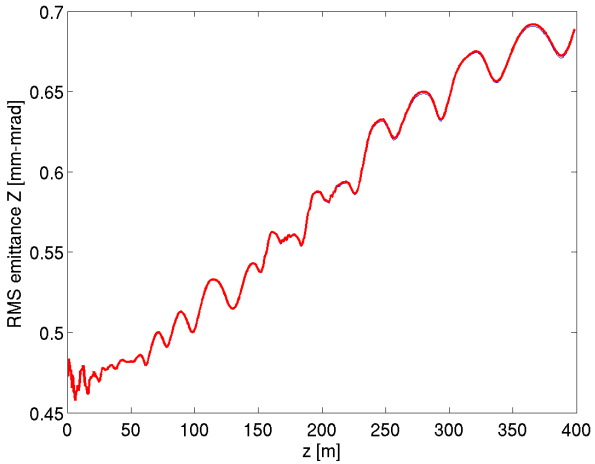
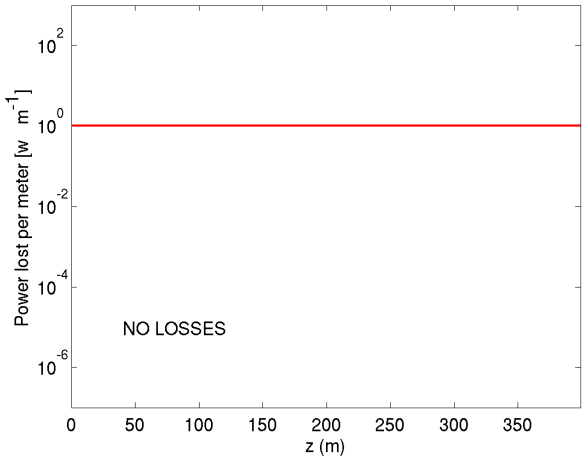


Figure: Losses [W·m^{-1}]



(58) Cavities $\phi_z = 5$ mrad

Figure: RMS Emittance X

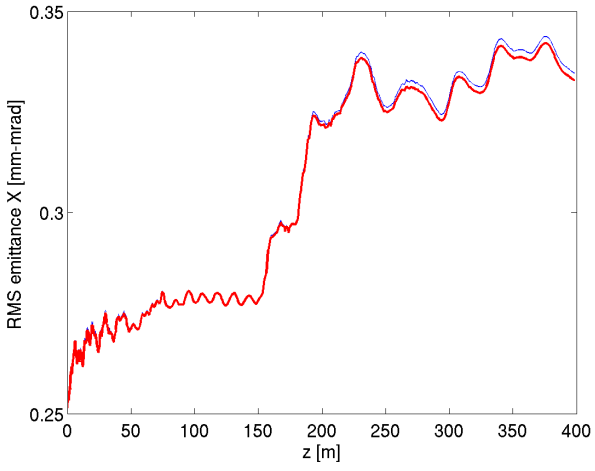


Figure: RMS Emittance Y

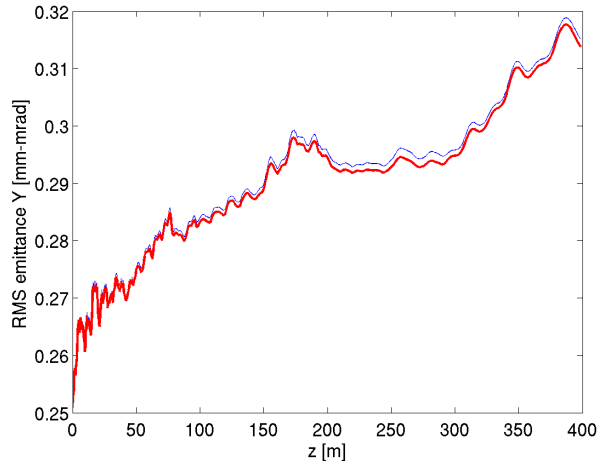


Figure: RMS Emittance Z

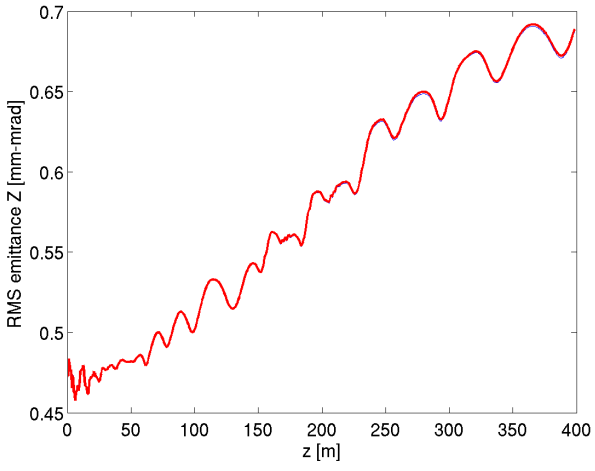
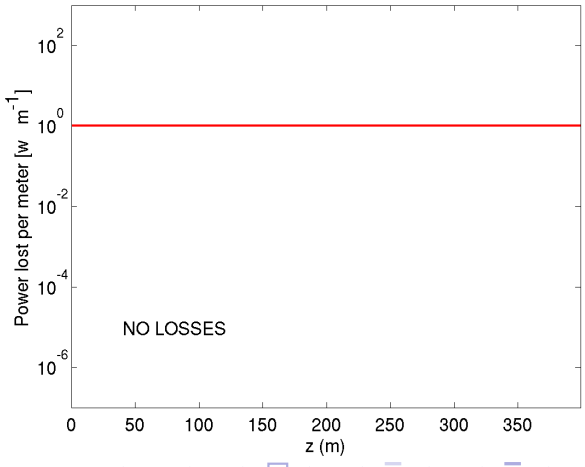


Figure: Losses [W·m^{-1}]



(59) Cavities $\phi_z = 7$ mrad

Figure: RMS Emittance X

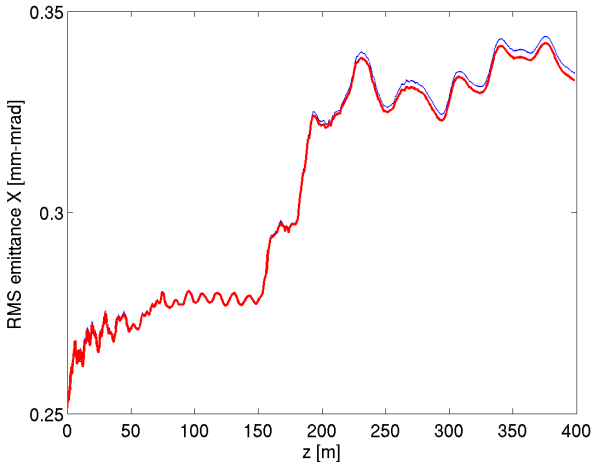


Figure: RMS Emittance Y

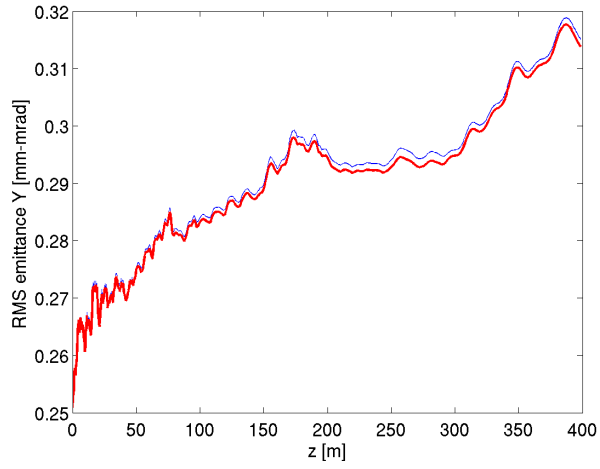


Figure: RMS Emittance Z

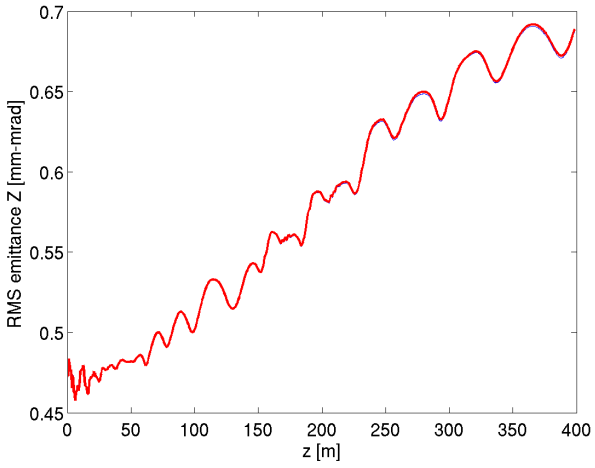
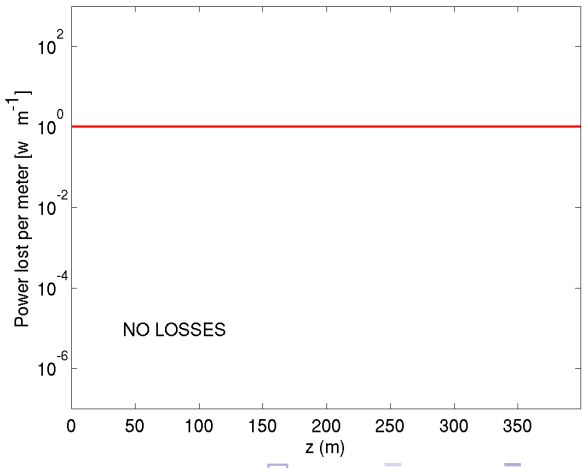


Figure: Losses [W·m^{-1}]



(60) Cavities $\phi_z = 10$ mrad

Figure: RMS Emittance X

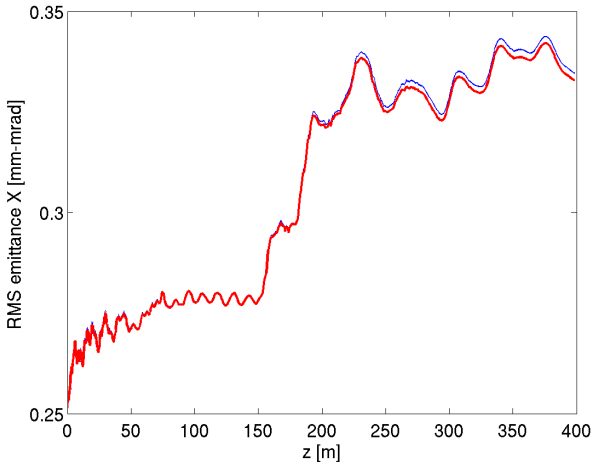


Figure: RMS Emittance Y

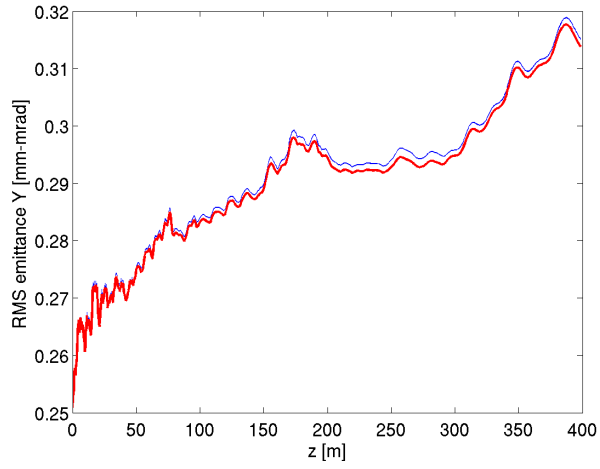


Figure: RMS Emittance Z

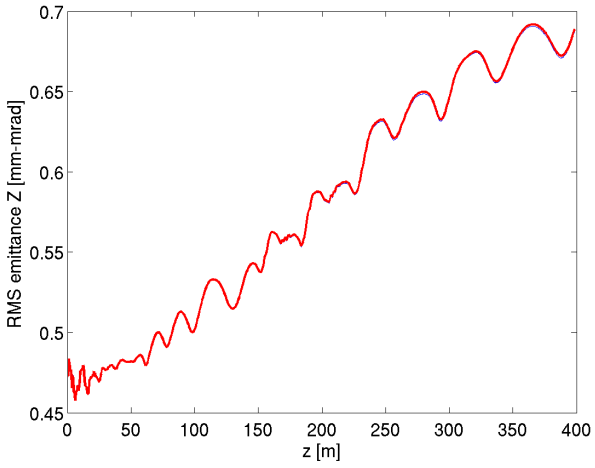
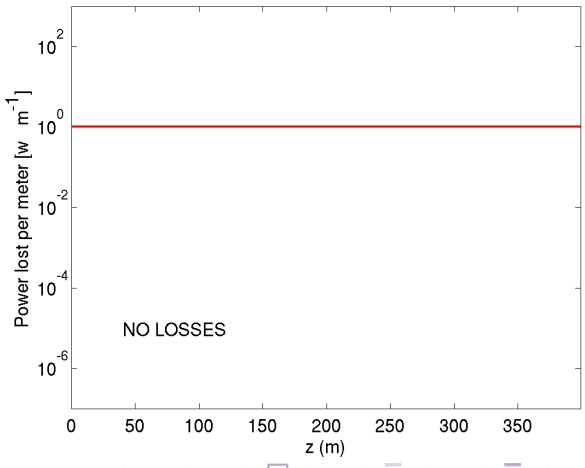


Figure: Losses [W·m^{-1}]



(61) Cav. Phase $\delta\phi_{dynamic} = 0.5^{\circ}$

Figure: RMS Emittance X

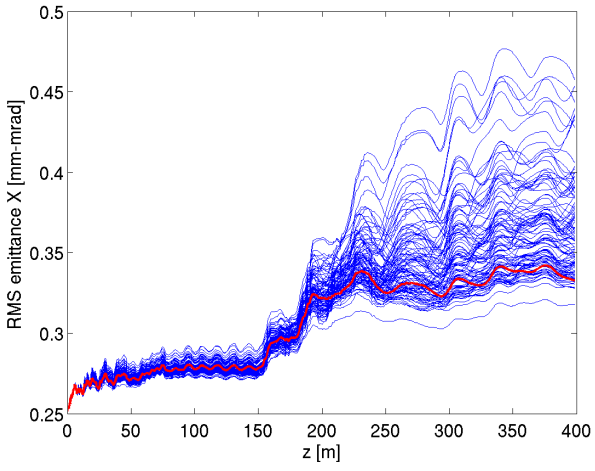


Figure: RMS Emittance Y

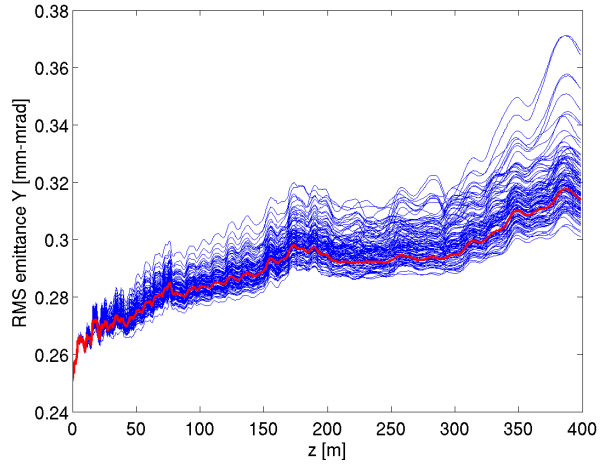


Figure: RMS Emittance Z

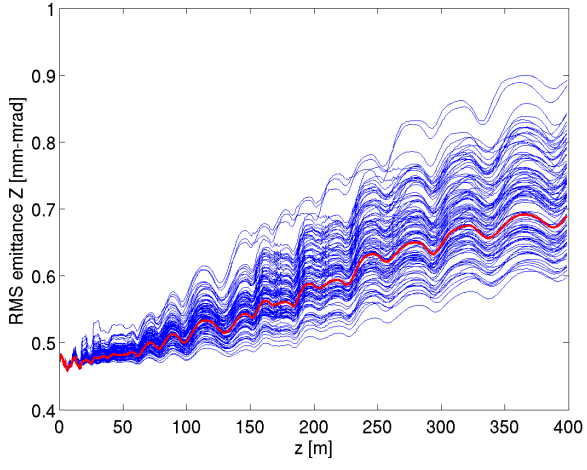
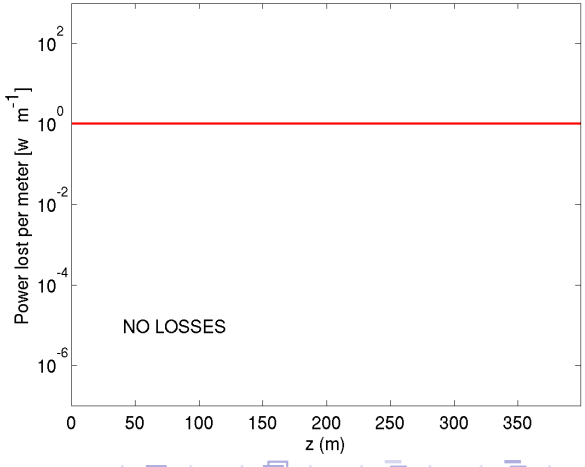


Figure: Losses [W·m^{-1}]



(62) Cav. Phase $\delta\phi_{dynamic} = 1.0^{\circ}$

Figure: RMS Emittance X

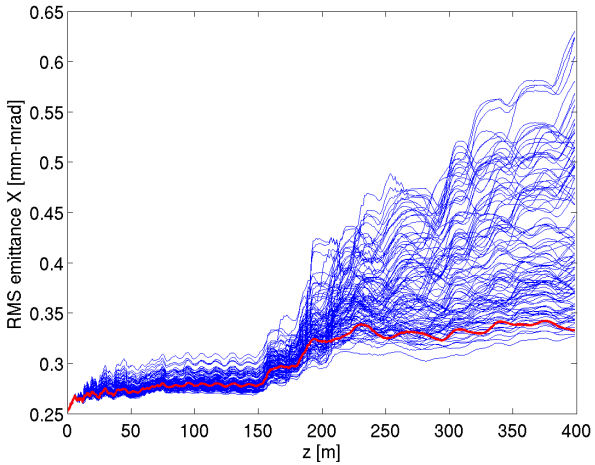


Figure: RMS Emittance Y

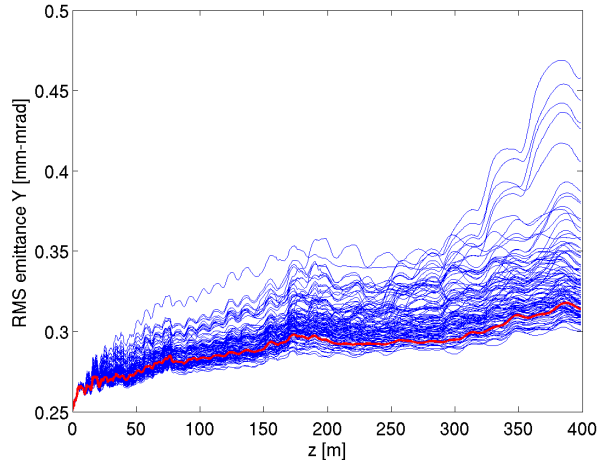


Figure: RMS Emittance Z

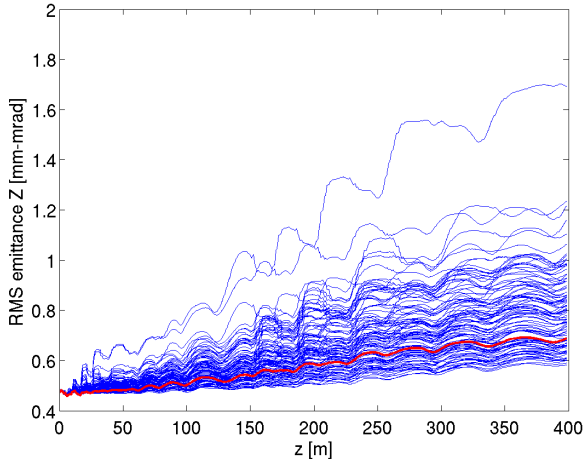
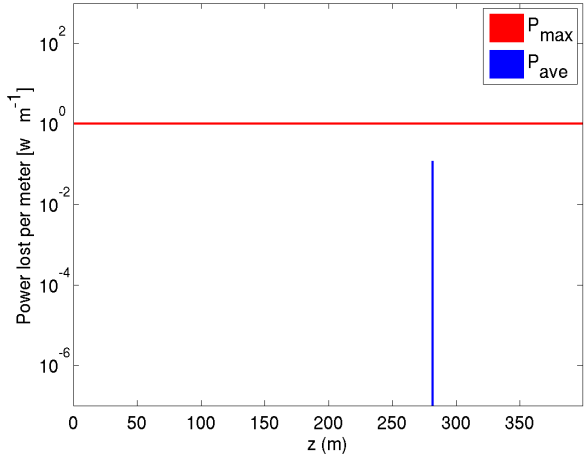


Figure: Losses [W·m^{-1}]



(63)Cav. Phase $\delta\phi_{dynamic} = 1.5^{\circ}$

Figure: RMS Emittance X

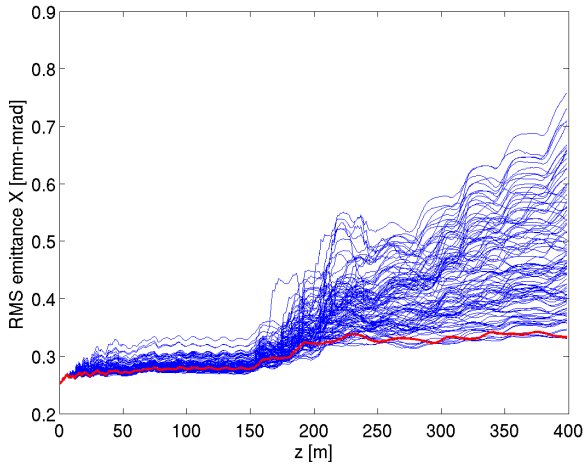


Figure: RMS Emittance Y

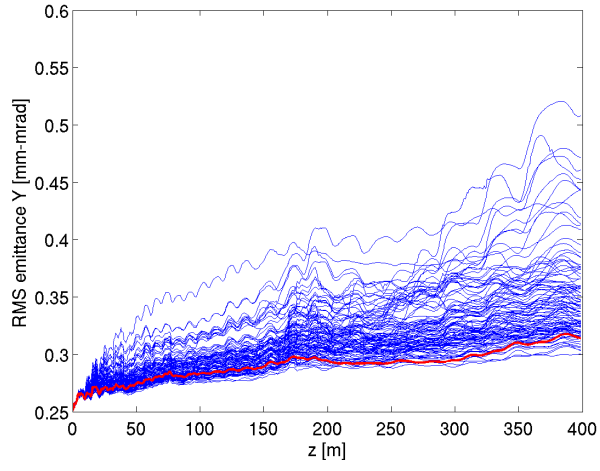


Figure: RMS Emittance Z

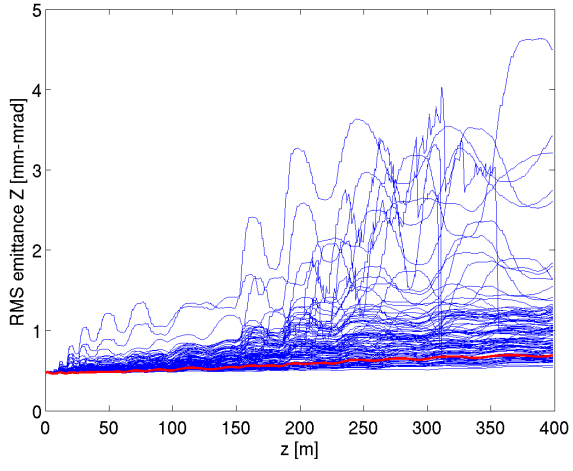
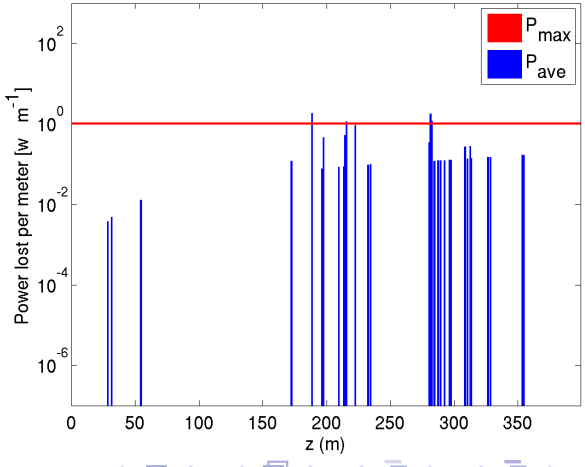


Figure: Losses [W·m^{-1}]



(64) Cav. Phase $\delta\phi_{dynamic} = 2.0°$

Figure: RMS Emittance X

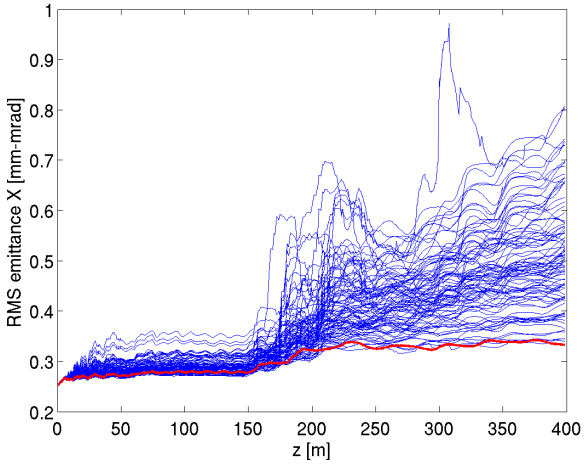


Figure: RMS Emittance Y

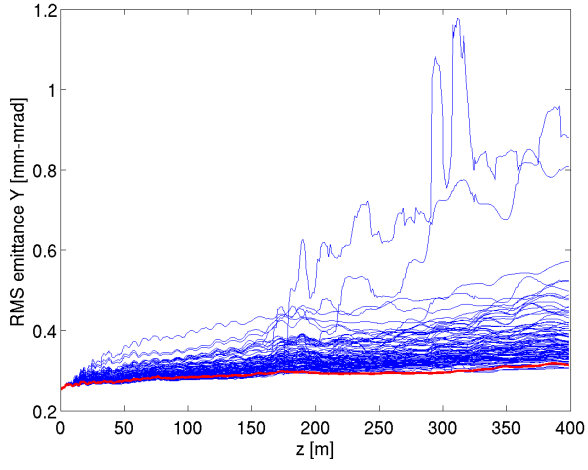


Figure: RMS Emittance Z

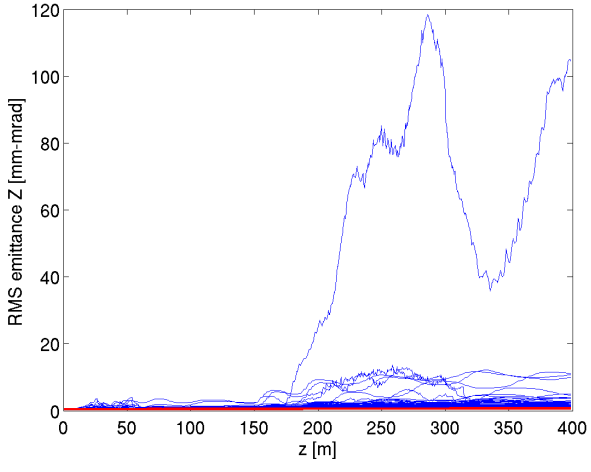
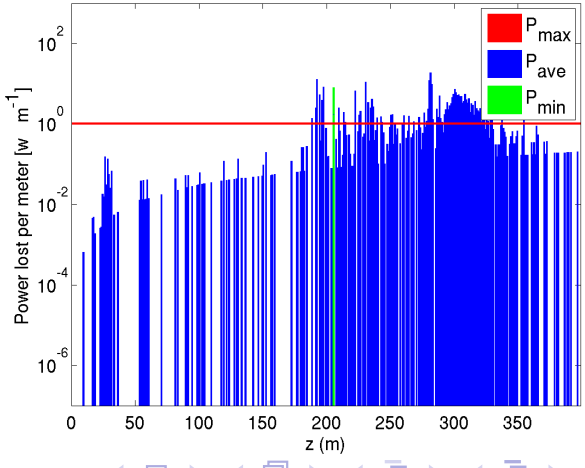


Figure: Losses [W·m^{-1}]



(65) Cav. Phase $\delta\phi_{dynamic} = 2.5^{\circ}$

Figure: RMS Emittance X

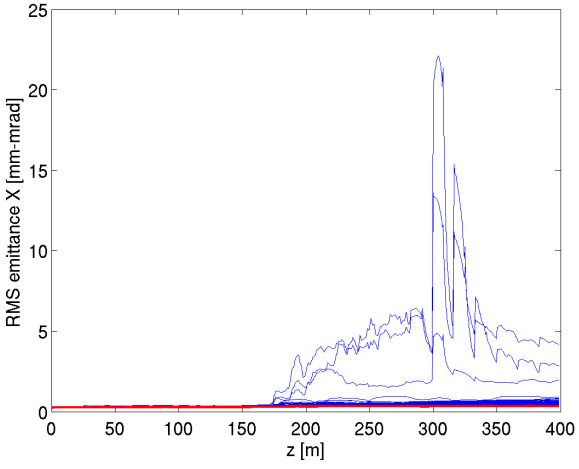


Figure: RMS Emittance Y

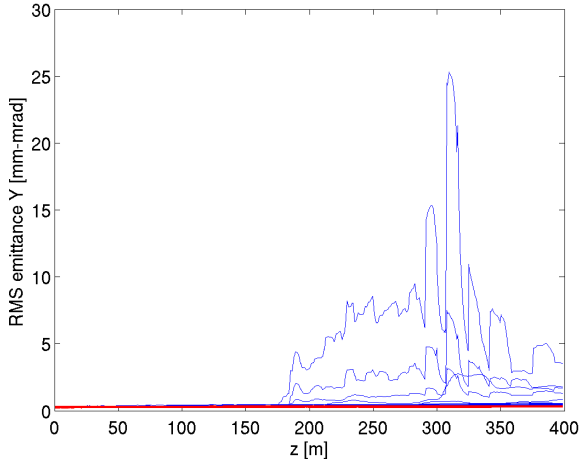


Figure: RMS Emittance Z

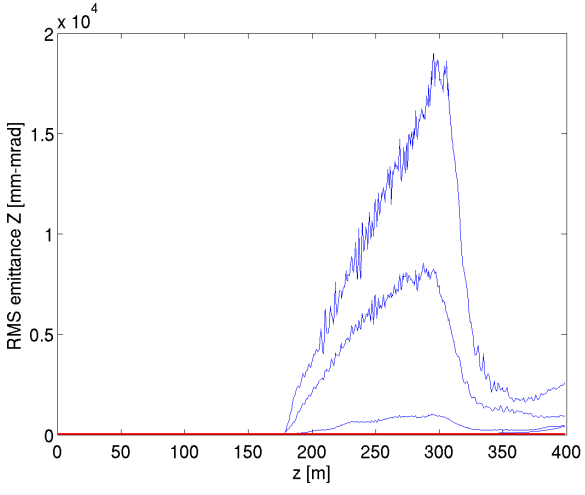
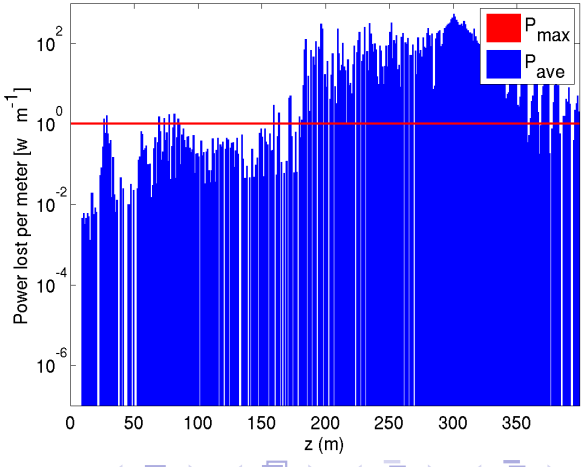


Figure: Losses [W·m^{-1}]



(66) Cav. Field $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

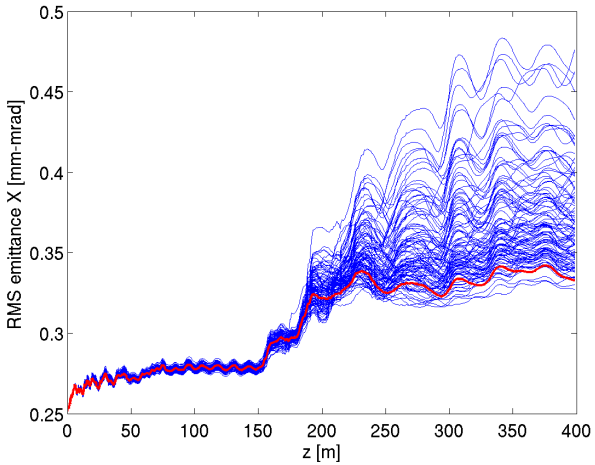


Figure: RMS Emittance Y

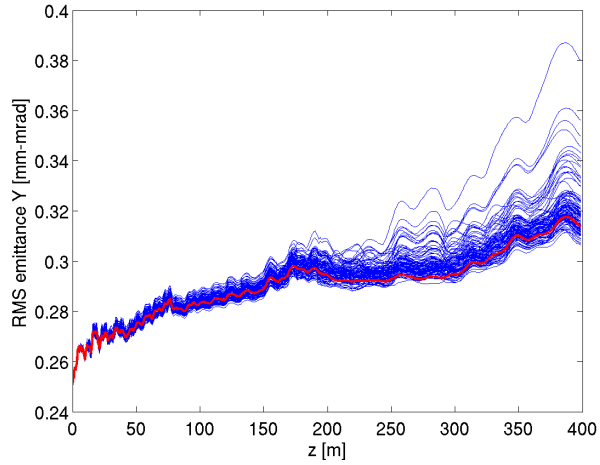


Figure: RMS Emittance Z

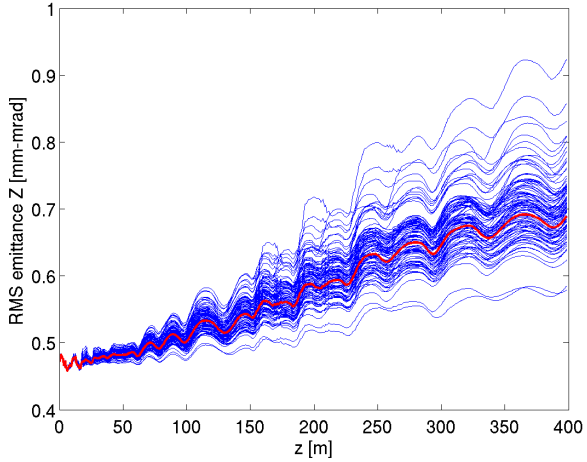
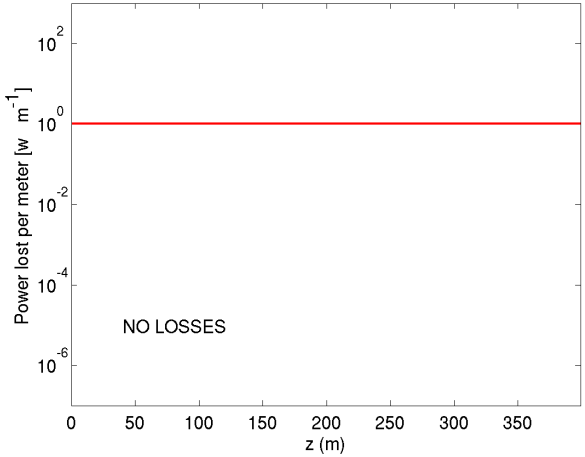


Figure: Losses [W·m^{-1}]



(67) Cav. Field $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

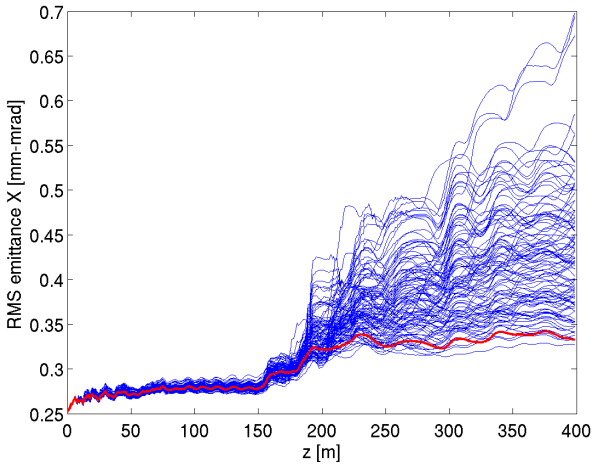


Figure: RMS Emittance Y

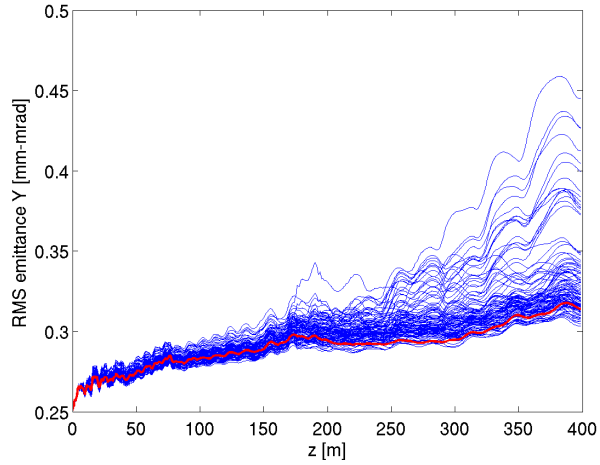


Figure: RMS Emittance z

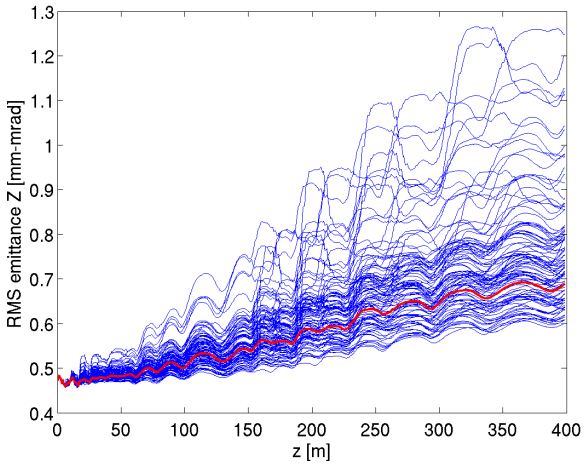
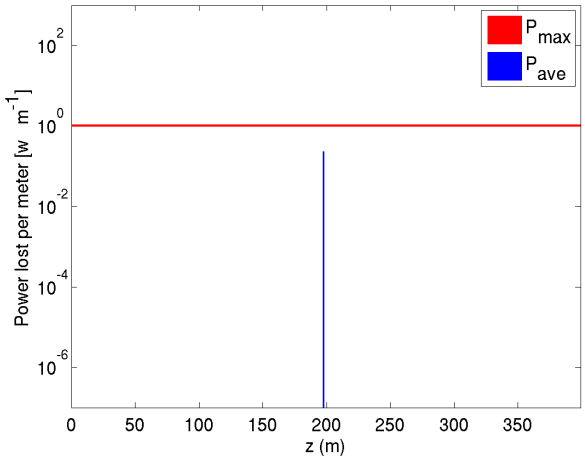


Figure: Losses [W·m^{-1}]



(68) Cav. Field $\delta F_{dynamic} = 1.5$ %

Figure: RMS Emittance X

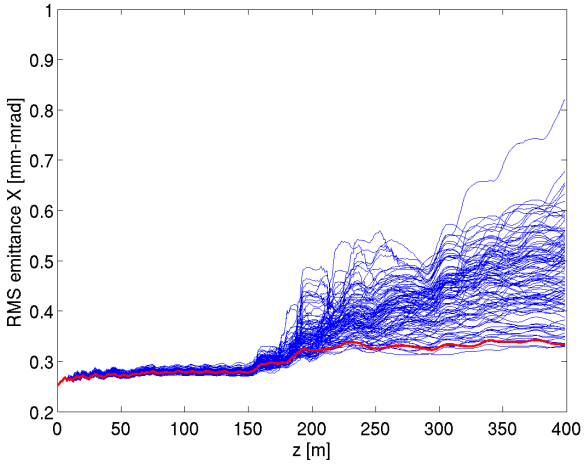


Figure: RMS Emittance Y

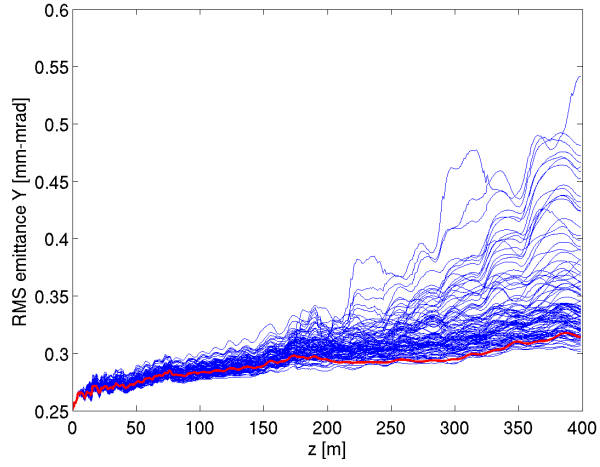


Figure: RMS Emittance Z

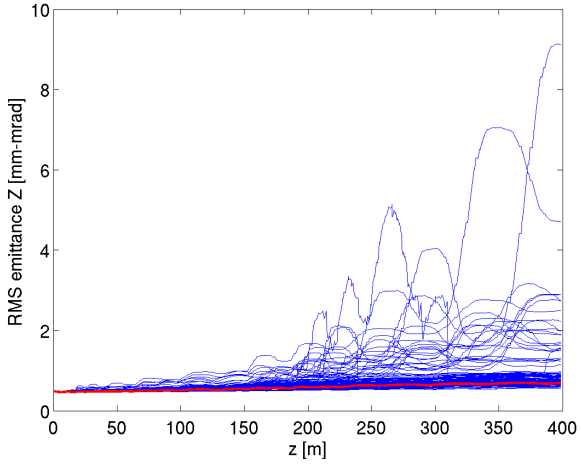
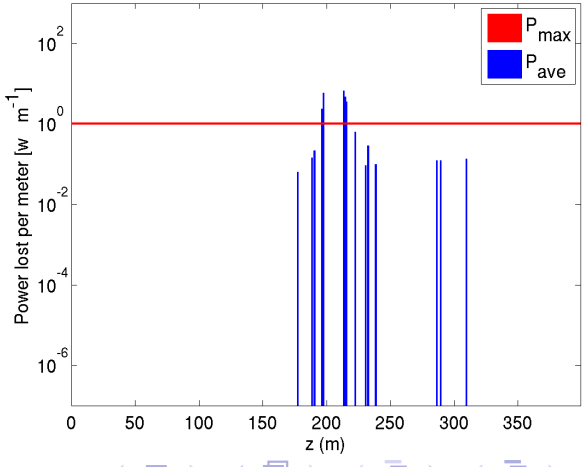


Figure: Losses [W·m^{-1}]



(69) Cav. Field $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

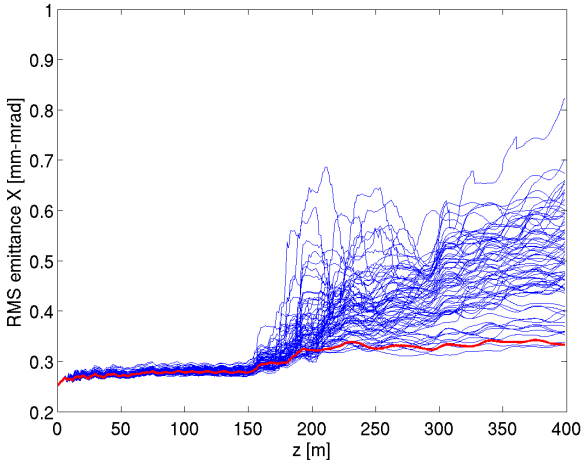


Figure: RMS Emittance Y

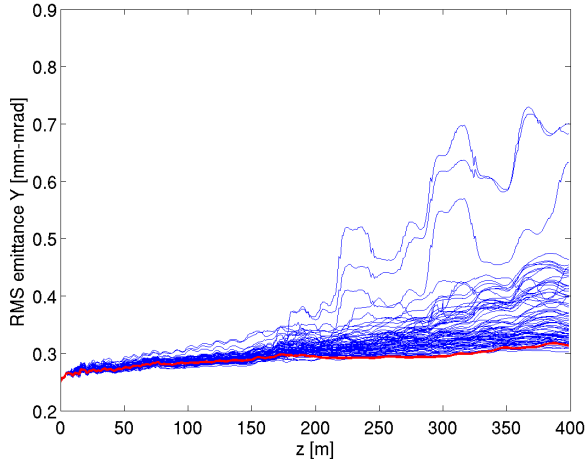


Figure: RMS Emittance Z

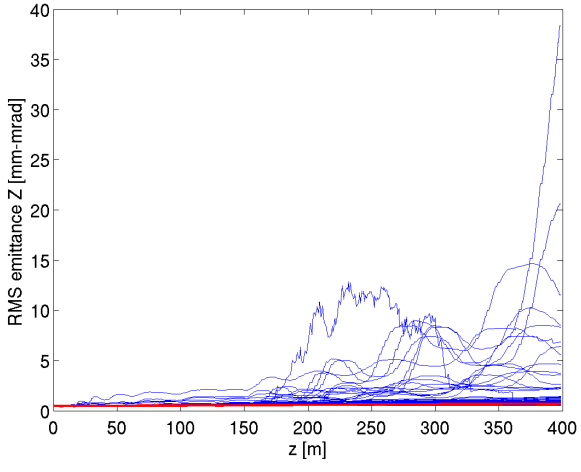
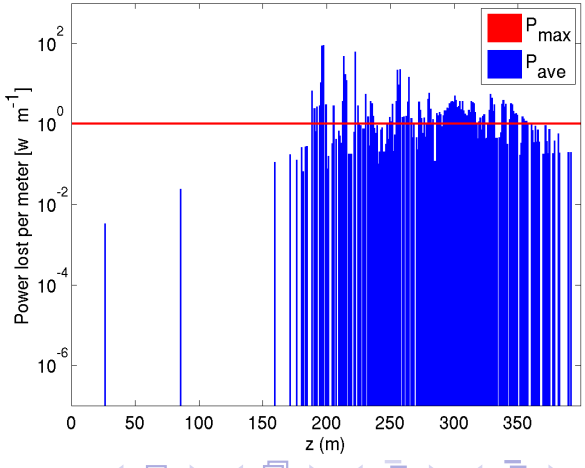


Figure: Losses [W·m^{-1}]



(70) Cav. Field $\delta F_{dynamic} = 2.5$ %

Figure: RMS Emittance X

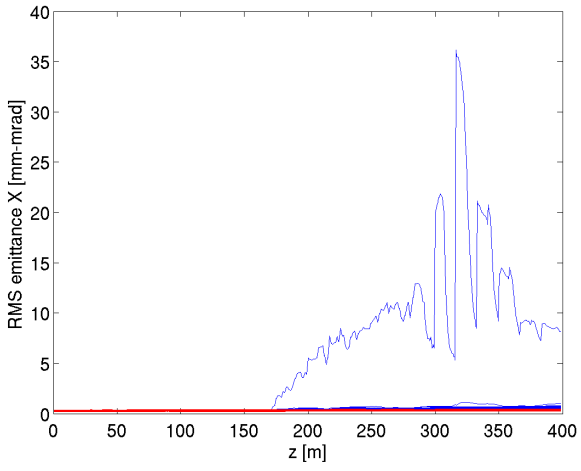


Figure: RMS Emittance Y

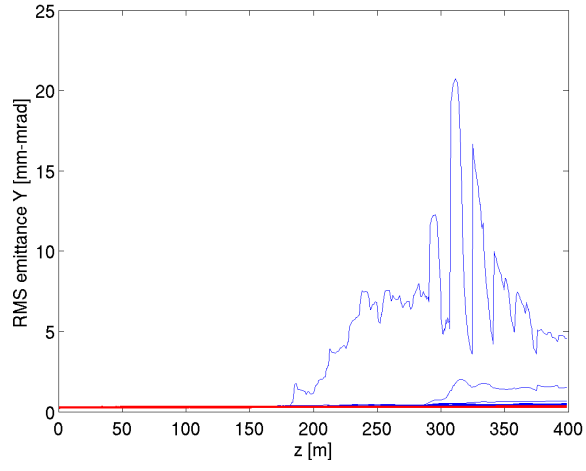


Figure: RMS Emittance Z

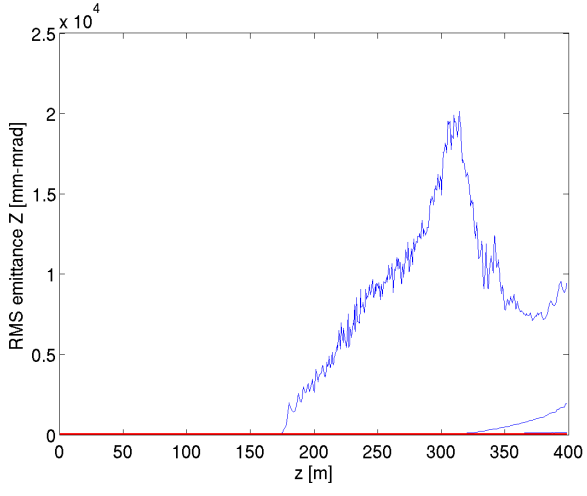
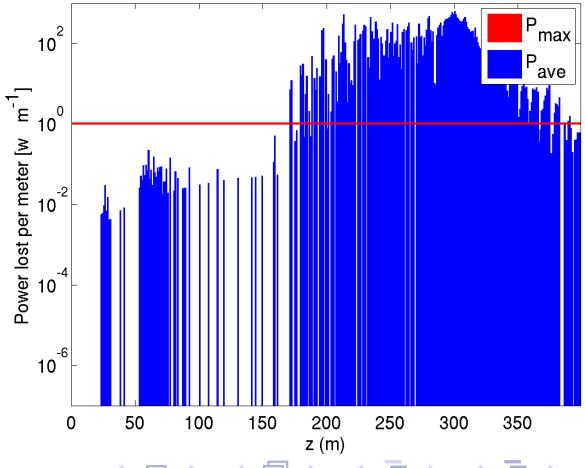


Figure: Losses [W·m^{-1}]



(71) Cav. Phase $\delta\phi_{static} = 0.5^{\circ}$

Figure: RMS Emittance X

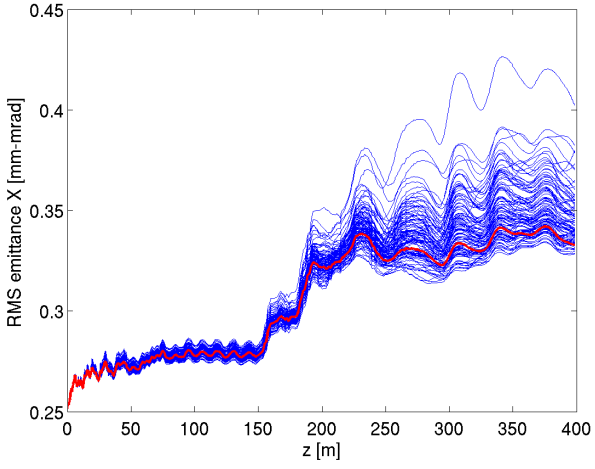


Figure: RMS Emittance Y

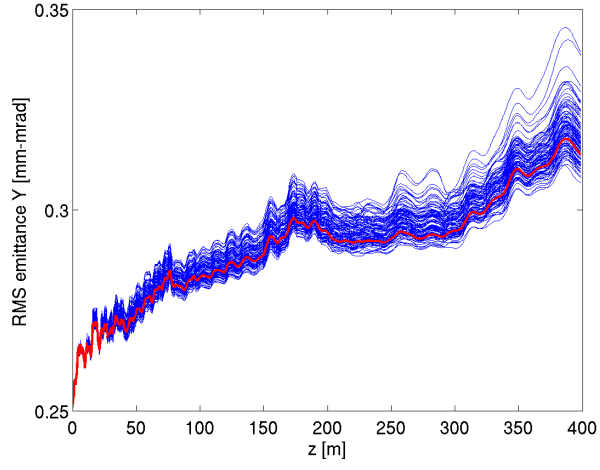


Figure: RMS Emittance Z

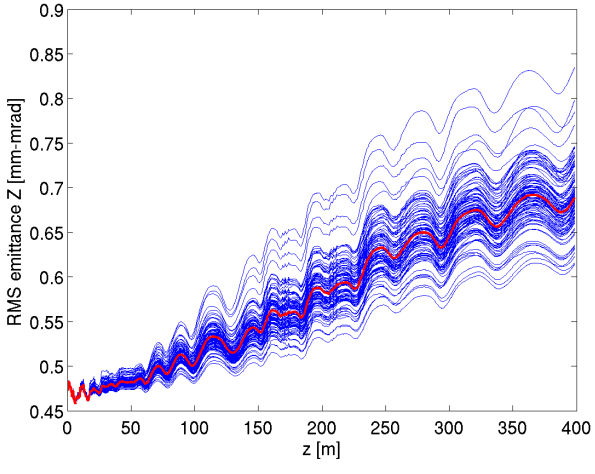
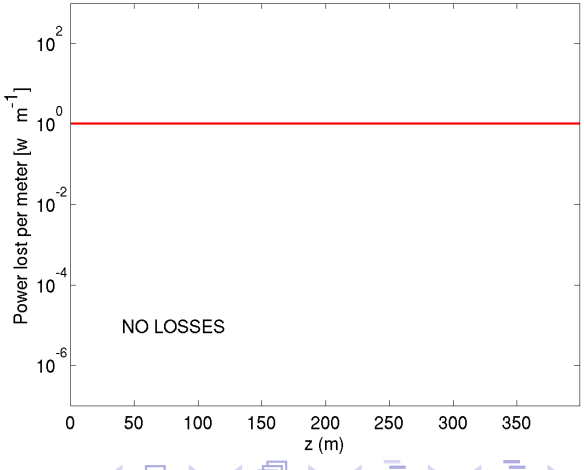


Figure: Losses [W·m^{-1}]



(72) Cav. Phase $\delta\phi_{static} = 1.0^{\circ}$

Figure: RMS Emittance X

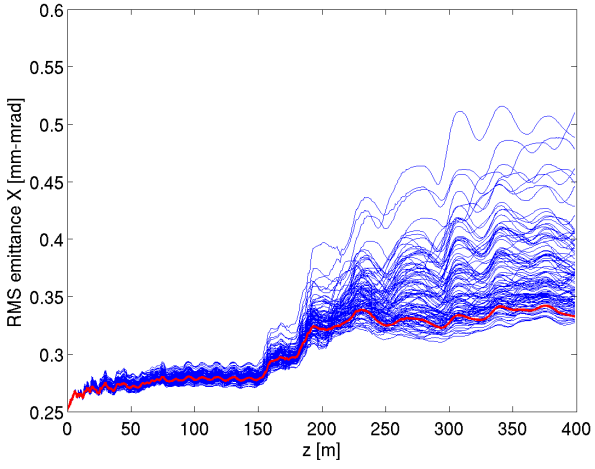


Figure: RMS Emittance Y

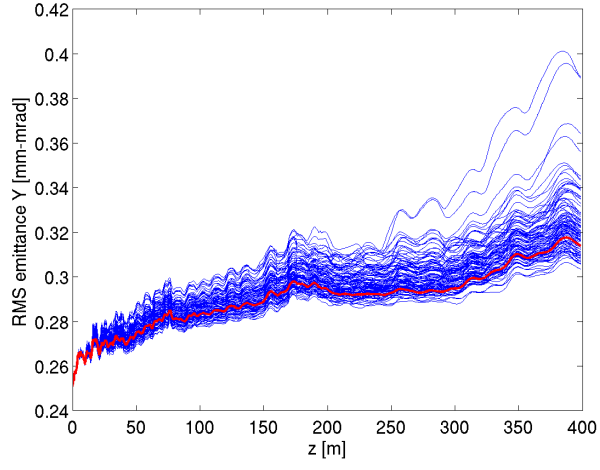


Figure: RMS Emittance Z

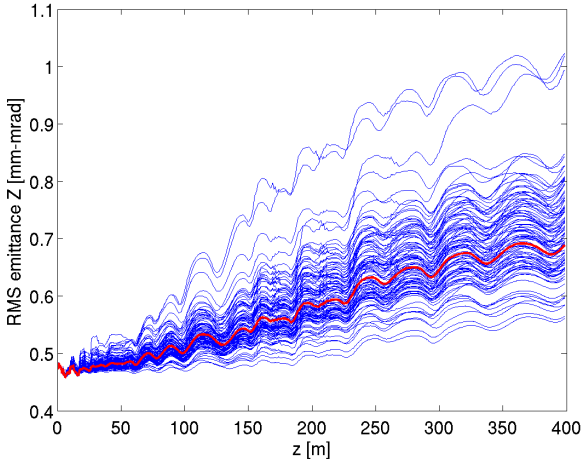
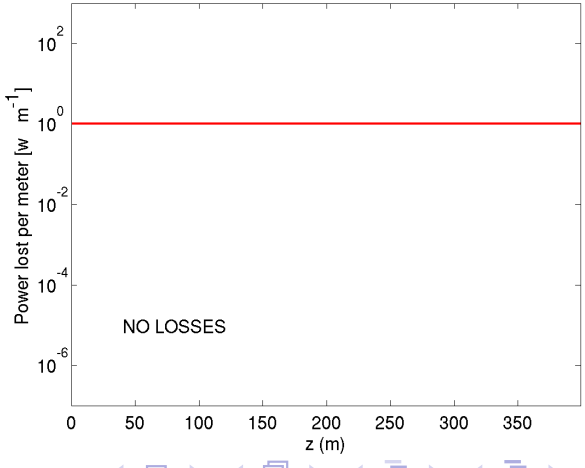


Figure: Losses [W·m^{-1}]



(73) Cav. Phase $\delta\phi_{static} = 1.5^{\circ}$

Figure: RMS Emittance X

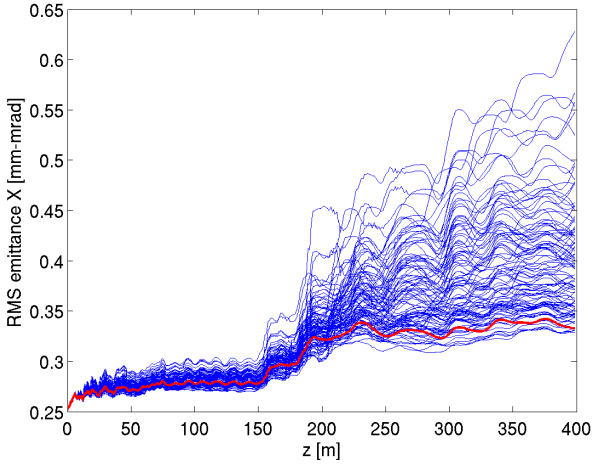


Figure: RMS Emittance Y

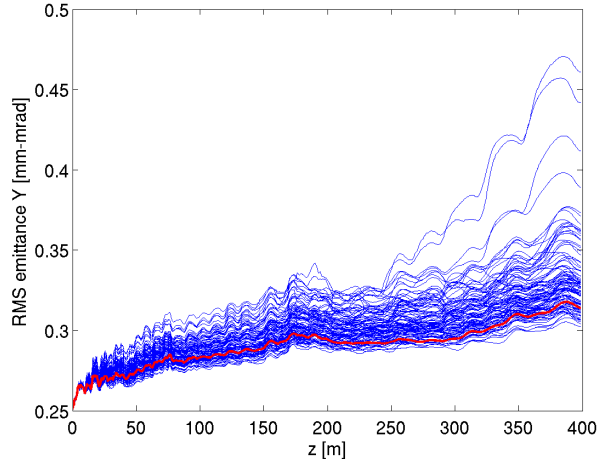


Figure: RMS Emittance Z

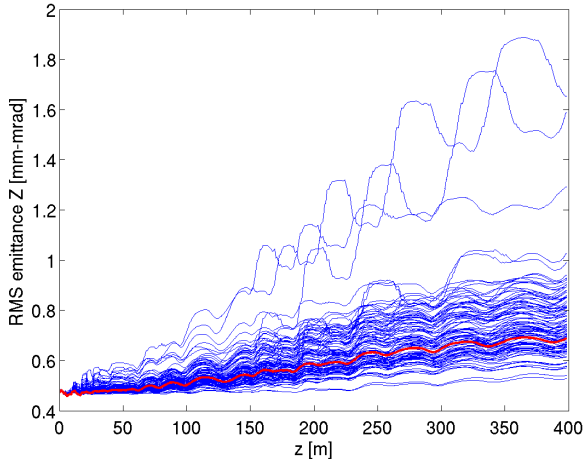
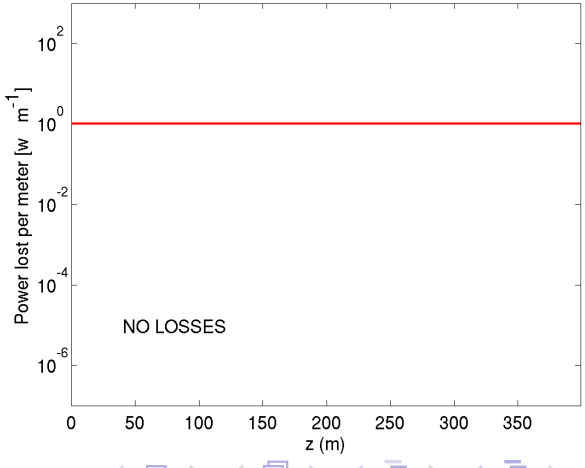


Figure: Losses [W·m^{-1}]



(74) Cav. Phase $\delta\phi_{static} = 2.0^{\circ}$

Figure: RMS Emittance X

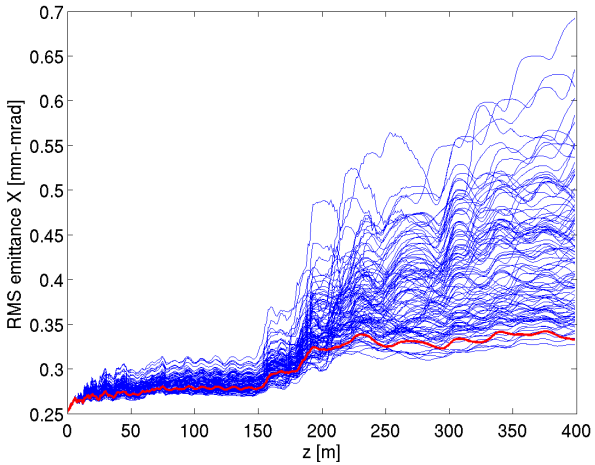


Figure: RMS Emittance Y

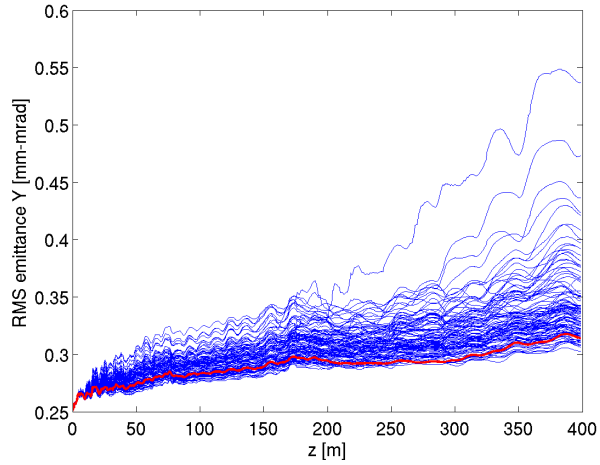


Figure: RMS Emittance Z

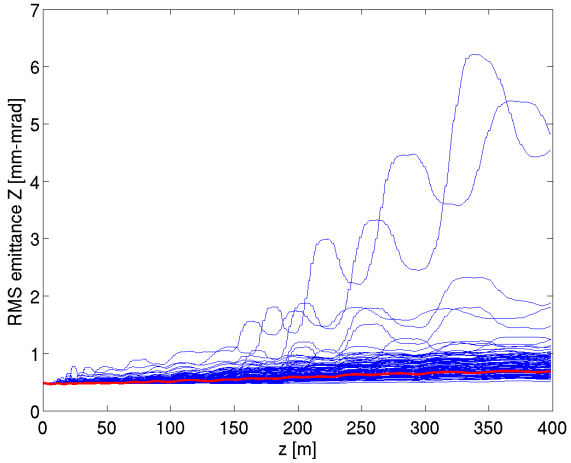
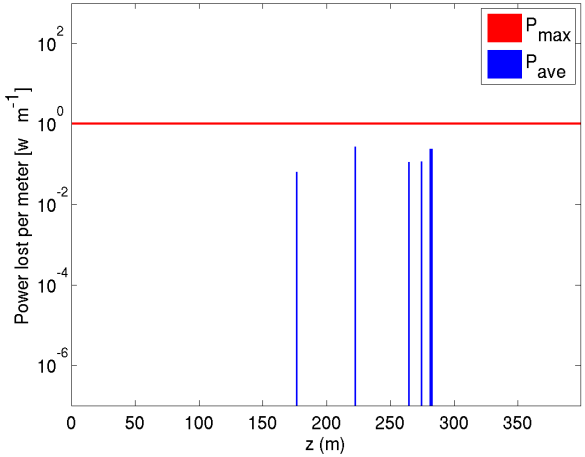


Figure: Losses [W·m^{-1}]



(75) Cav. Phase $\delta\phi_{static} = 2.5^{\circ}$

Figure: RMS Emittance X

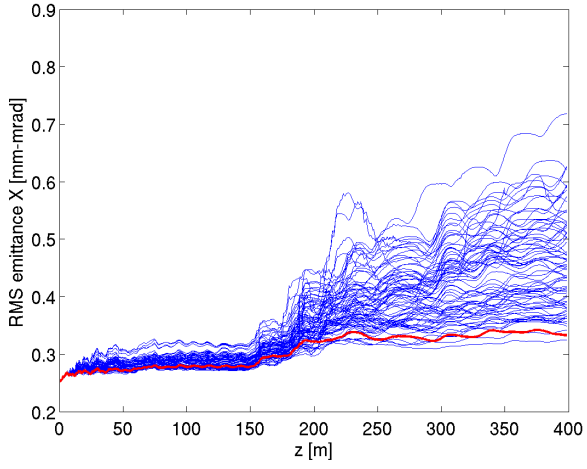


Figure: RMS Emittance Y

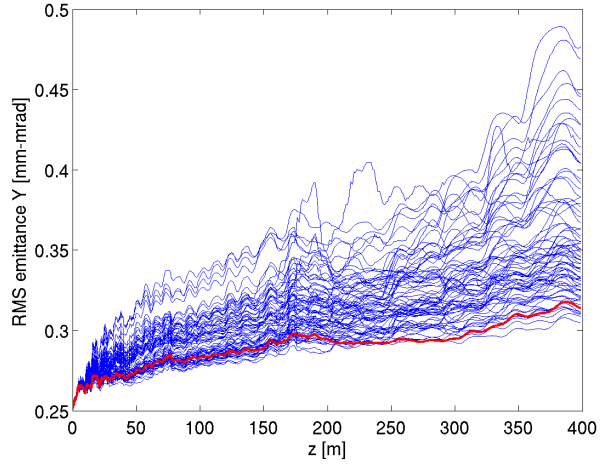


Figure: RMS Emittance Z

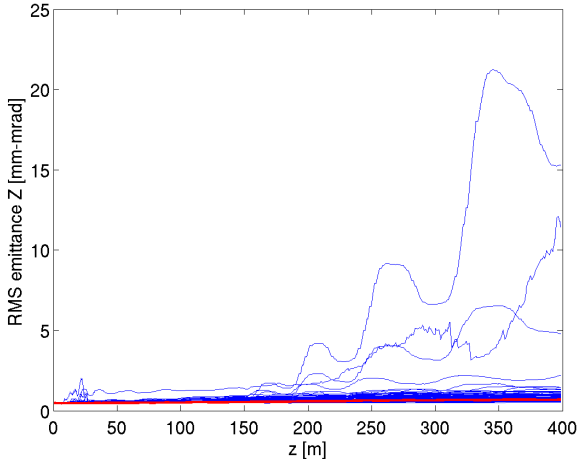
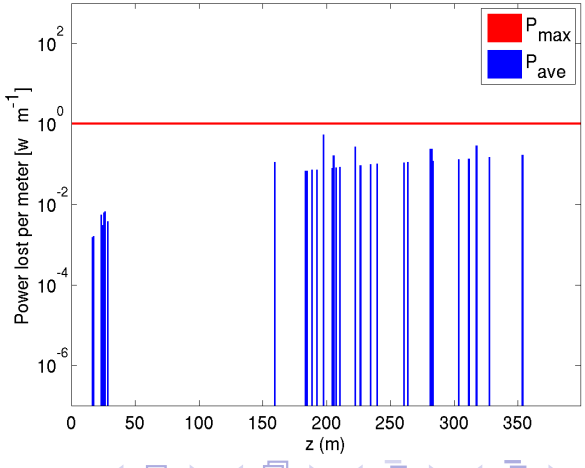


Figure: Losses [W·m^{-1}]



(76) Cav. Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

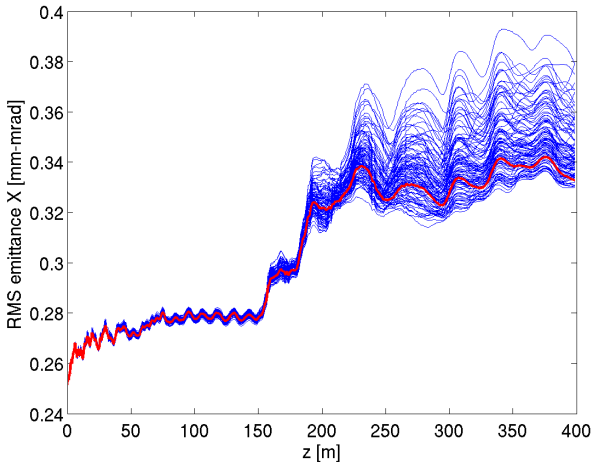


Figure: RMS Emittance Y

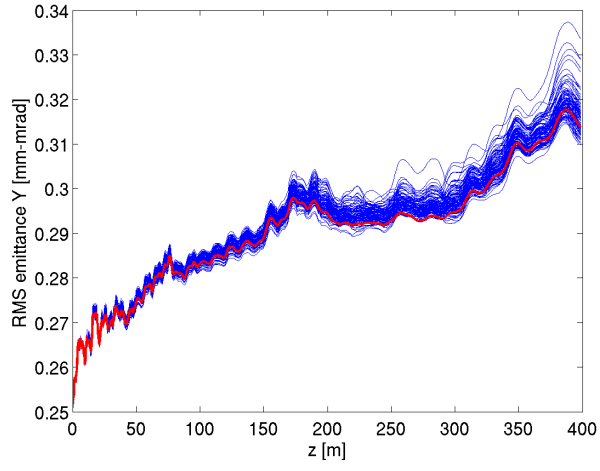


Figure: RMS Emittance Z

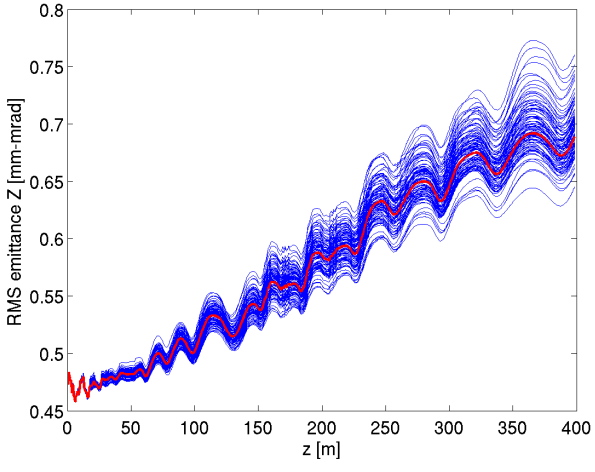
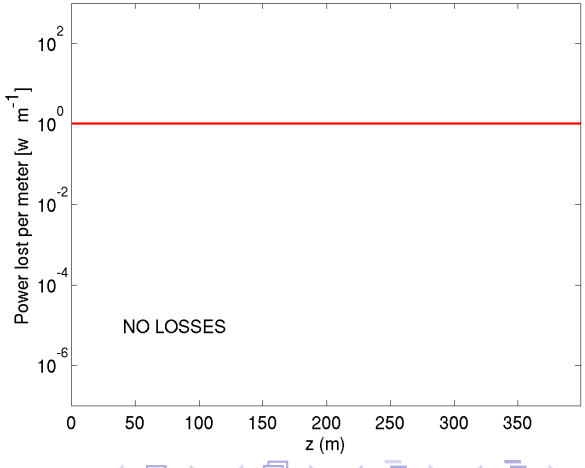


Figure: Losses [W·m^{-1}]



(77) Cav. Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

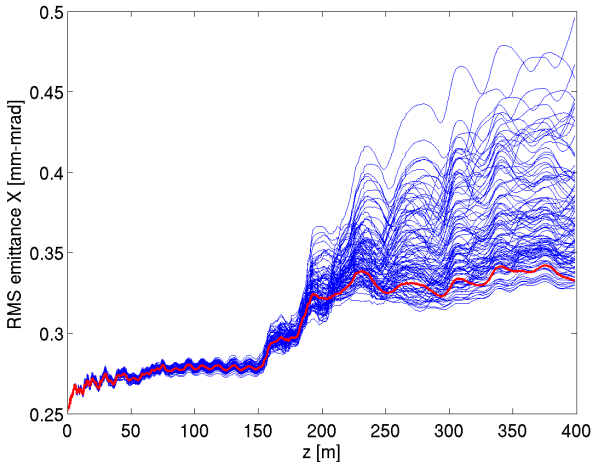


Figure: RMS Emittance Y

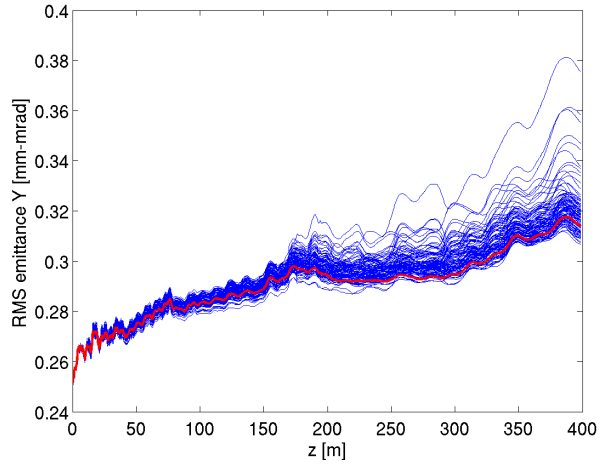


Figure: RMS Emittance Z

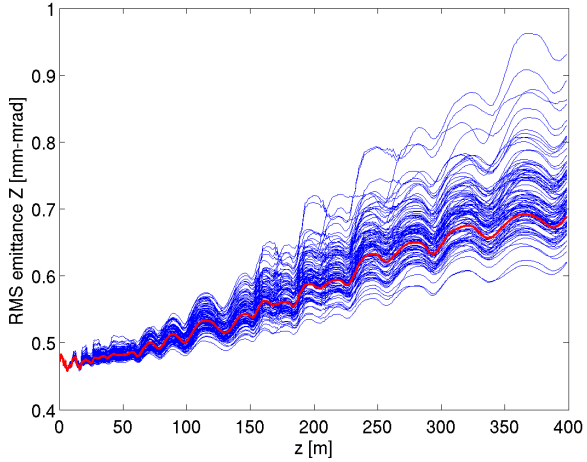
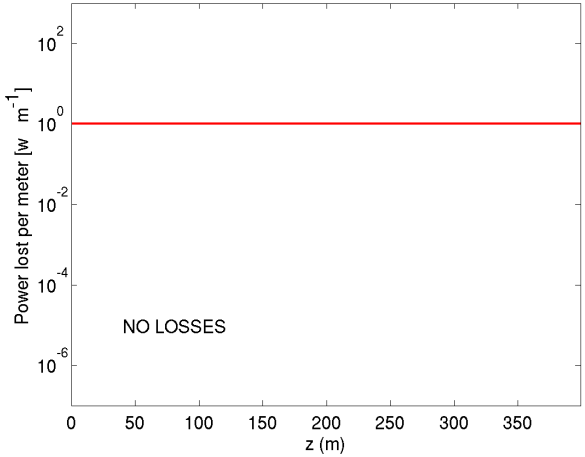


Figure: Losses [W·m^{-1}]



(78) Cav. Field $\delta F_{static} = 1.5$ %

Figure: RMS Emittance X

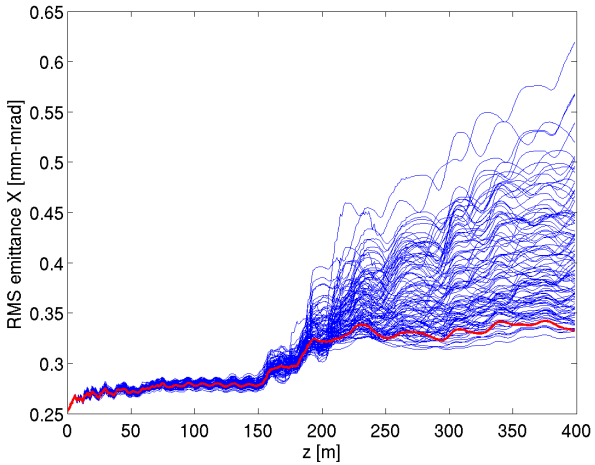


Figure: RMS Emittance Y

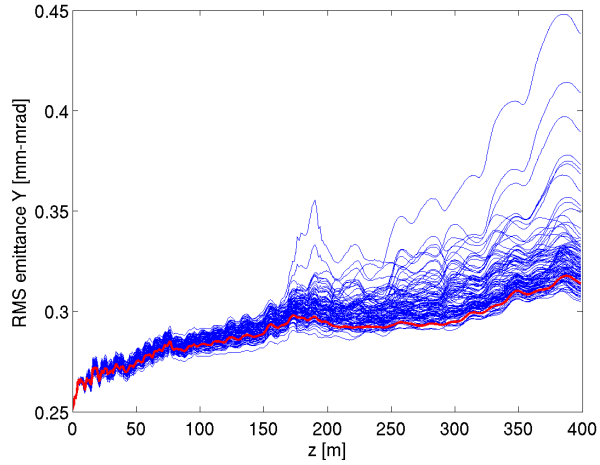


Figure: RMS Emittance Z

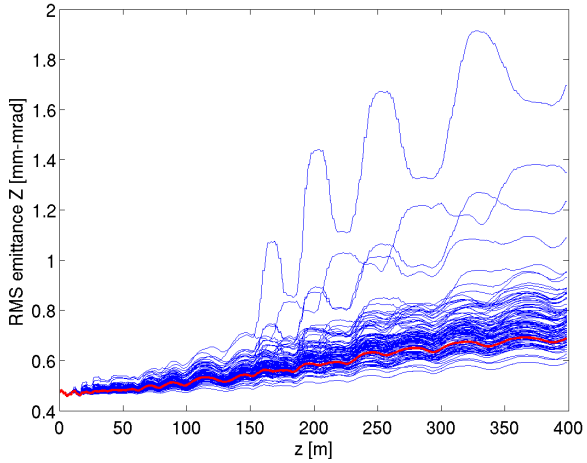
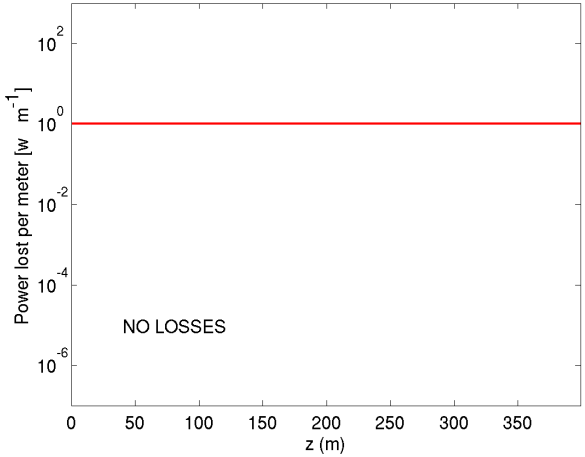


Figure: Losses [W·m^{-1}]



(79) Cav. Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

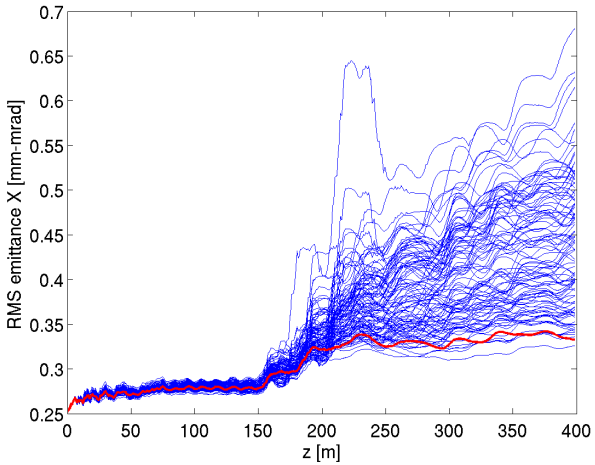


Figure: RMS Emittance Y

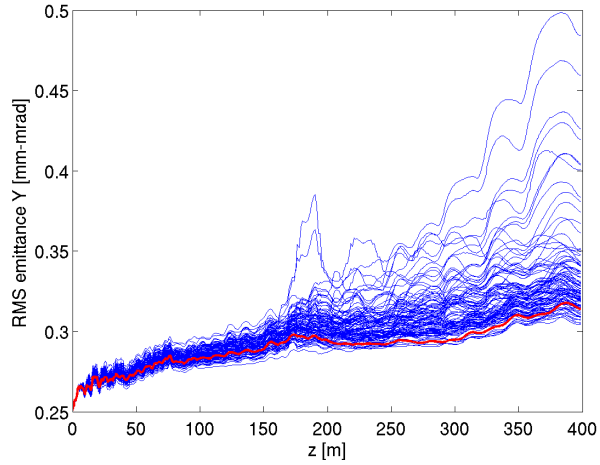


Figure: RMS Emittance Z

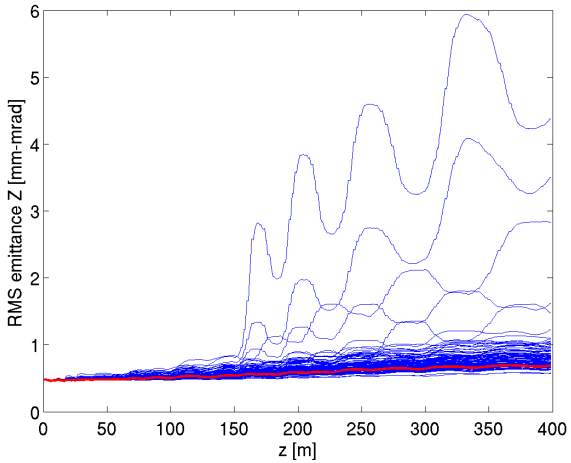
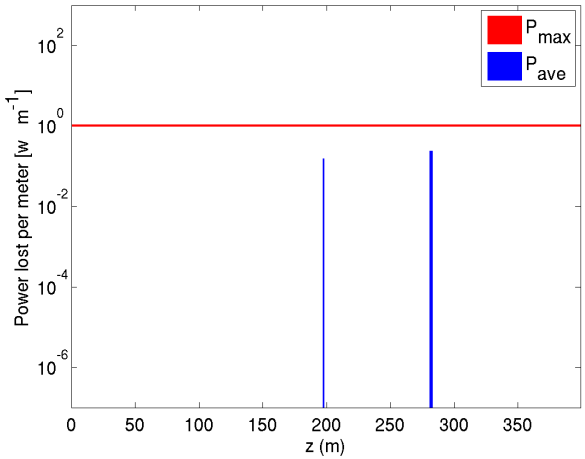


Figure: Losses [W·m^{-1}]



(80) Cav. Field $\delta F_{static} = 2.5$ %

Figure: RMS Emittance X

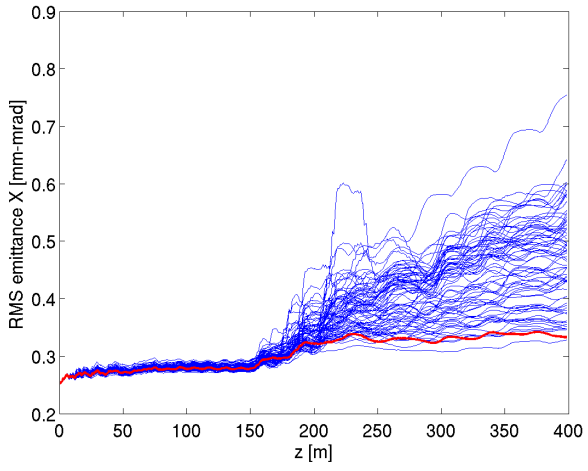


Figure: RMS Emittance Y

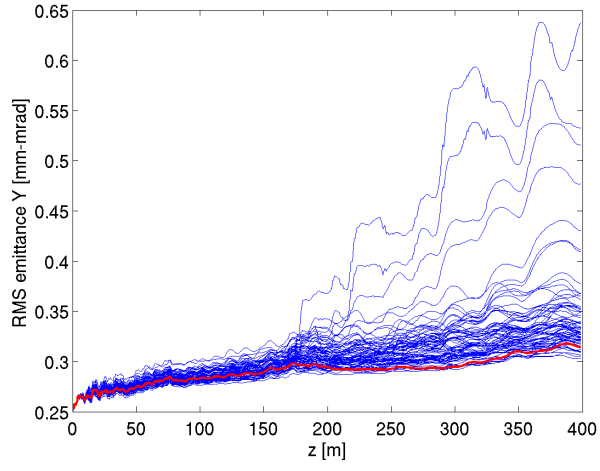


Figure: RMS Emittance Z

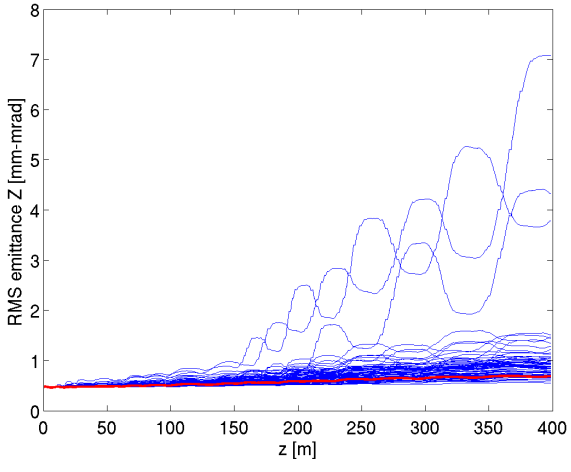


Figure: Losses [W·m^{-1}]